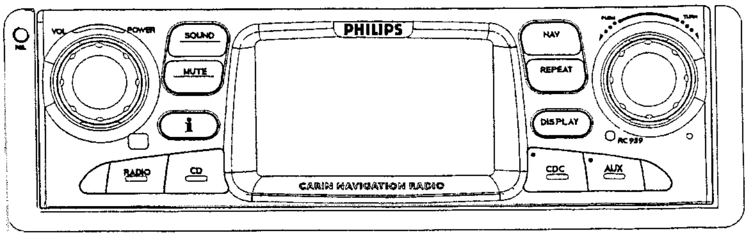
CD Car Radio 22RC959/00

Service
Service
Servic



For repair information of the CD deck, see service manual 4822 725 25483 of CD deck CDMM2.

Service Manual

12 V

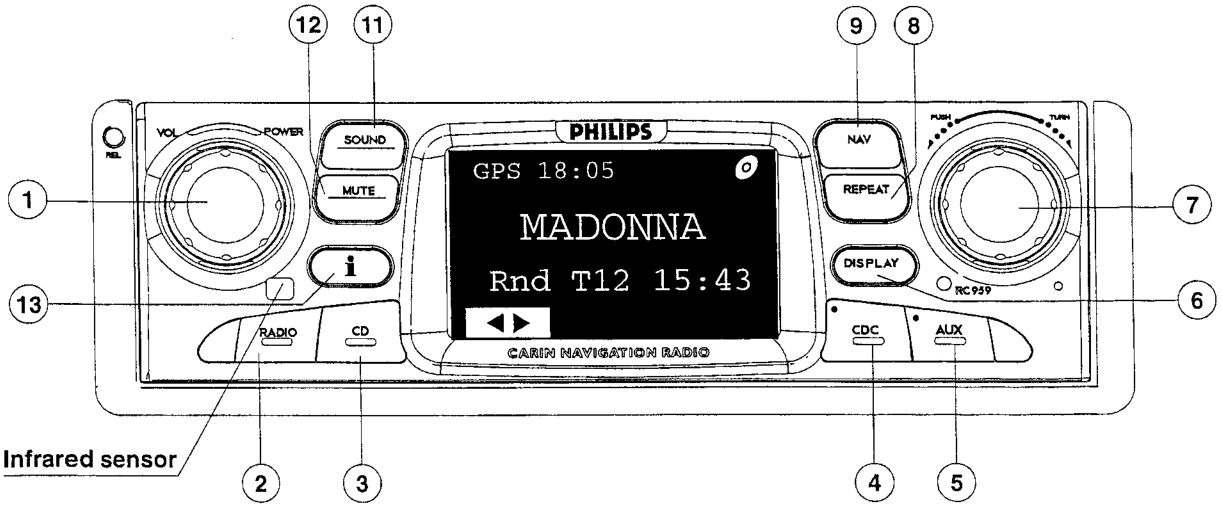
Contents

Contents	page
Controls	2
Connections	3
Removing the PWB	4
Technical data	5 - 5a
Directions for use	6 - 6a to 8 - 8a
CDSP description	9 - 9a
CDSP pinning	10 - 10a
Checks and alignment	11 - 11a
Test modes	12 - 12a
Electrical block diagram	13 - 13a
Front schematic diagram 01	14 - 14a
Front schematic diagram 02	15 - 15a
CD - Tuner part schematic diagram	16 - 16a
Connector block schematic diagram	17
SAA1305T description	18
Power supply part 00 schematic diagram	19 - 19a
Power supply part 01 schematic diagram	20 - 20a
Sound process part 00 schematic diagram	21 - 21a
Main PWB layout topside view	22 - 22a - 30 - 30a
Main PWB layout bottomside view	23 - 23a - 31 - 31a
Sound process part 01 schematic diagram	24 - 24a
Power amplifier part schematic diagram	25 - 25a
Microcontroller part 00 schematic digram	26 - 26a
IC pinnings	27
DC voltages microcontroller	28
Microcontroller part 01 schematic digram	29 - 29a
Microcontroller part 02 schematic digram	32 - 32a
Exploded view	33 - 33a
Electrical partslist	34 - 34a to 36 - 36a

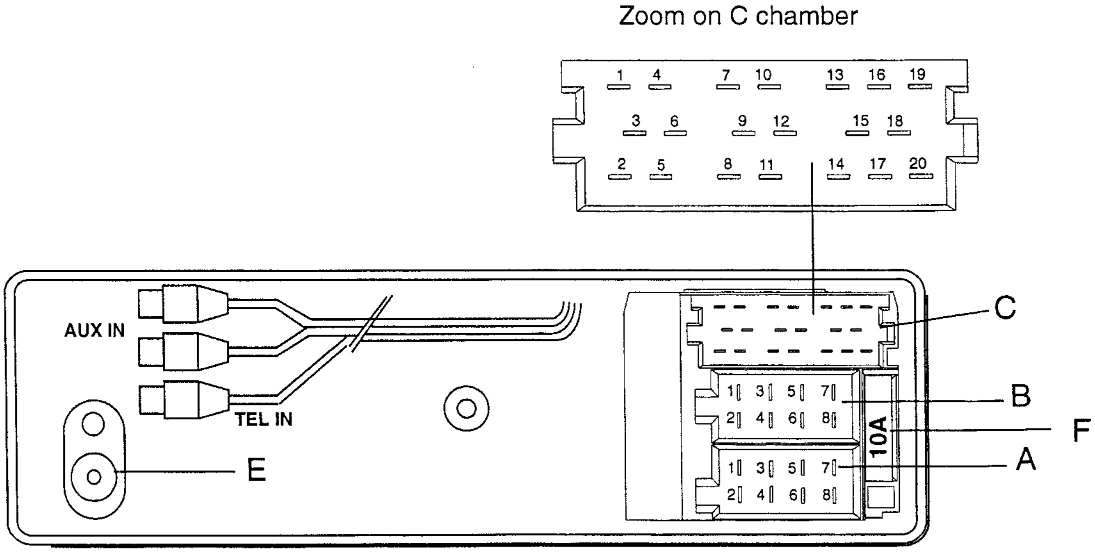
Published by Philips Car Systems Printed in the Netherlands © Copyright reserved Subject to modification 4822 725 25864

PCS 98 491

PHILIPS


12
11
9
8
1
7
13
6
2
3
4
5
Infrared sensor
VOL
POWER
REL
SOUND
MUTE
PHILIPS
GPS 18:05
MADONNA
Rnd T12 15:43
CARIN NAVIGATION RADIO
NAV
REPEAT
DISPLAY
PUSH
TURN
RC959
RADIO
CD
CDC
AUX

	Keys	Application	Action
1	Audio Rotary button	Audio	adjust selected audio settings
		Power control	Power switch On/Off
11	Sound key	Audio	select audio settings
12	Mute key	Audio	Volume mute selection
8	Repeat key	Navigation	Repeat last Navigation message
7	Menu rotary button	User Interface	Menu items selection or DFA activation
			Menu item activation or DFA selection
6	Display key	User Interface	Audio / Navigation display selection
13	Information key	Announce	Announcement modes selection
2	Radio key	State control	Radio source selection
3	CD key or Tape key	State control	Player source selection
9	Navigation key	User interface	Navigation menu enter
4	CDC key	State control	CDC source selection
5	Tel./Aux key	State control	Telephone or Auxiliary source selection
REL	Front flap down button	Power control	Remove front


Zoom on C chamber
1 4 7 10 13 16 19
3 6 9 12 15 18
2 5 8 11 14 17 20
AUX IN
TEL IN
E
C
B
F
A
10A
1 3 5 7
2 4 6 8
1 3 5 7
2 4 6 8

		Name of signal on schematic PS01
A : POWER SUPPLY		
A1	Telephone mute	A1
A2	N.C.	
A3	N.C.	
A4	Plus permanent +	POWER
A5	Electrical antenna	A5
A6	External illumination plus	A6
A7	Ignition On / Off	NO_POWER
A8	Power ground	
B : LOUDSPEAKER SUPPLY		
B1	Rear right +	B1
B2	Rear right -	B2
B3	Front right +	B3
B4	Front right -	B4
B5	Front left +	B5
B6	Front left -	B6
B7	Rear left +	B7
B8	Rear left -	B8

			Name of signal on schematic UP02
C:			
C:			
C1	Rear left	C1	LO_RL
C2	Rear right		LO_RR
C3	Gnd		
C4	Front left		LO_FL
C5	Front right		LO_FR
C6	= A5		
C7	= A7	C2	NO_POWER
C8	Carin in		CARIN_AUD
C9	Carin ref		CARIN_REF
C10	D2B+		DB+
C11	D2B GND		
C12	D2B-		DB-
C13	D2B+	C3	DB+
C14	D2B-		DB-
C15	D2B GND		
C16	+ Permanent		+14V4 CDC
C17	= A5		
C18	In ref		CDC_REF
C19	In left		CDC_LEFT
C20	In right		CDC_RIGHT

C1 Line out
for YELLOW connector

C2 Line out
For GREEN connector

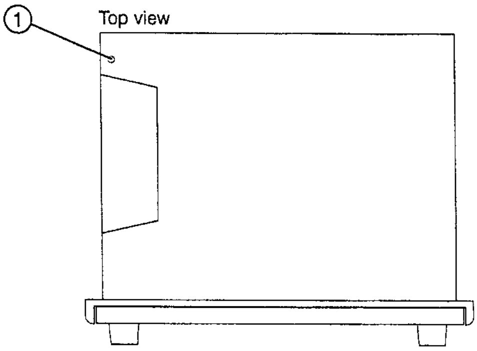
C3 CD changer
for BLUE connector

E : Aerial plug slide in

F : Fuse 10A

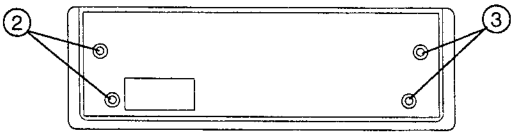
REMOVING THE PWB

Top view



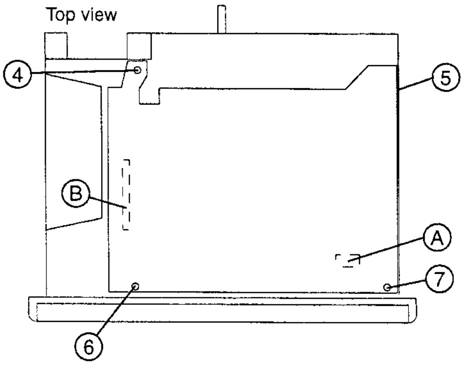
Remove the cover top (screw **1**) and the cover bottom
Remove the detachable front

Front view



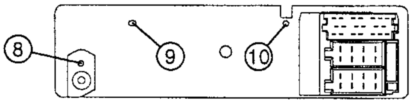
Remove the fixed front (screws **2** and **3**)

Top view



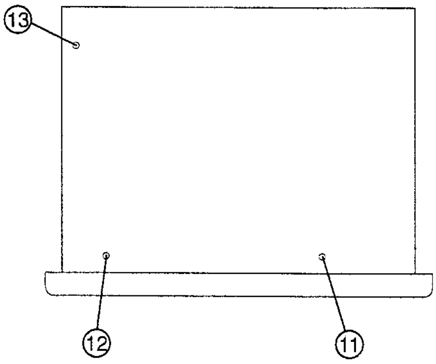
Remove the deck (screws **4**,**5**,**6** and **7**)
Disconnect the **A** connector
Disconnect the **B** connector

Rear view

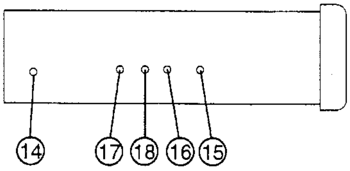


Remove the antenna plug bracket (screws **8**)
Remove the main PWB (screws **9** to **17**)

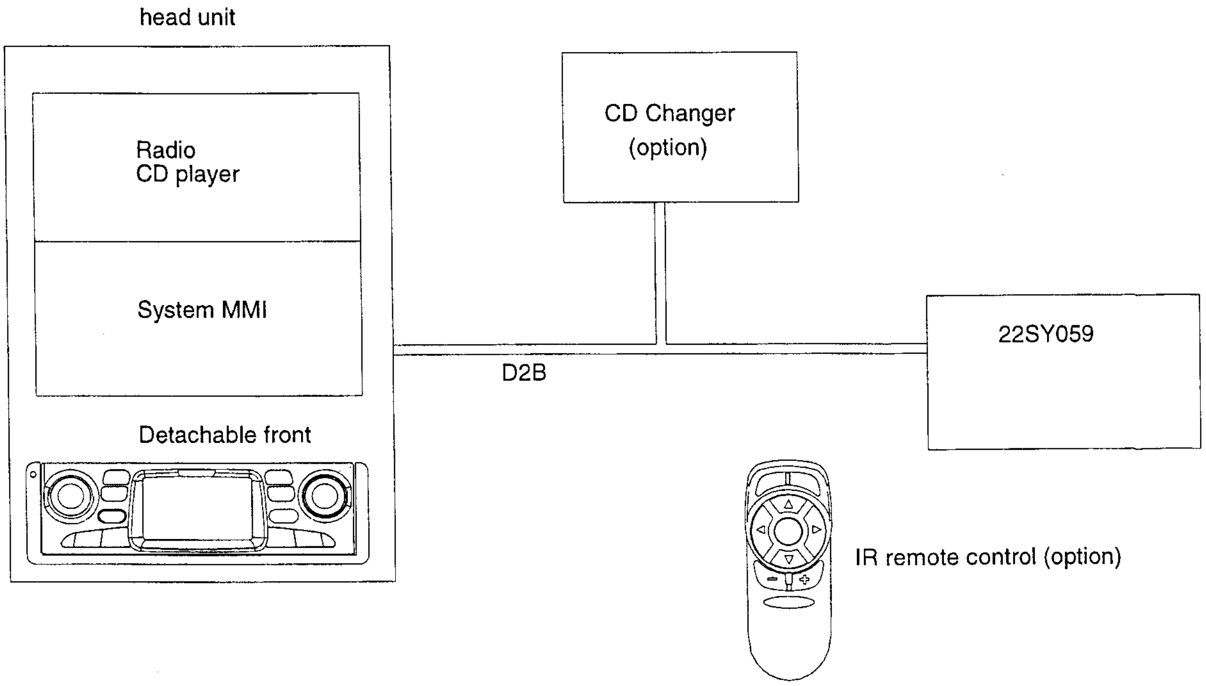
Bottom view



Left view



This sets can be used either as a single radio part, or can be included in a system.
The system is composed of:
The head unit 22RC959/00
A Carin MK2i navigation 22SY059
An optional CD Changer
An optional infrared remote control



This Service Manual concerns only the set 22RC959/00.

ESD

WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD equipment available:

Anti-static table mat large 100X650X1.25mm	4822 466 10953
small 600X650X1.25mm	4822 466 10958
Connection box (1Mohm)	4822 395 10223
Extendible cable (to connect wrist band to connection box)	4822 320 11307
Connecting cable (to connect table mat to connection box)	4822 320 11305
Earth cable (to connect any product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 310 10671
wristband tester	4822 344 13999

TECHNICAL DATA

GENERAL

Power supply :10.8 to 15.6V DC
Dimensions :180x150x51 mm
Front : Full detachable
Security code : No
Blinking LED : Yes
Quiescent current (at 12.6V) : <3mA (with clock and blinking LED)

RADIO

LW : 144-288 KHz - steps Manual / Search : 1 KHz
MW (Europe) : 531-1629 KHz - steps Manual / Search : 1 / 9 KHz
MW (USA) : 530-1710 KHz - steps Manual / Search : 1 / 10 KHz
SW : 5.95-6.25 MHz - steps Manual / Search : 1 KHz
FM (Europe) X2 : 87.5-108 MHz - steps Manual / Search : 50 / 50KHz
FM (USA) X2 : 87.9-107.9 MHz - steps Manual / Search : 50 / 50KHz
IF-AM (1/2) : 10.7 MHz / 450 KHz
IF-FM (1/2) : 72.2 MHz / 10.7 MHz
Sensivity 26dB S/N : 20µV (LW)
: 14µV (MW)
: 14µV (SW)
: 3µV (FM)
Limitation α-3dB : 6to 10µV

CD

CD mechanism : CDMM2 1.2
Frequency response : 20- 20KHz
Crosstalk L-R at 1KHz : >40 dB

AMPLIFIER

Output power : 4x21W / 4Ω (THD = 10%)
Treble control : +10 / -10 at 10kHz
Bass control : +12 / -12 at 80Hz
Balance control : 70dB
Fader : 70dB

Information on the CDMM2 CD deck:

In order to solve some problems, an additional inductor 10µH has been mounted on the control PWB. You may find this change only on first models.

When you change the CD deck, do not apply this change, as the stock has already been modified.

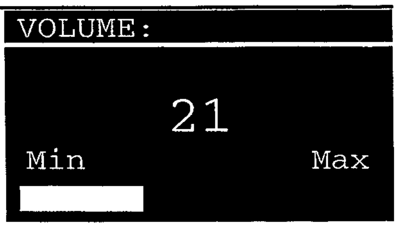
Short extraction of the Directions For Use.

This will lead you in the use of this set, which is menu driven.

LEGEND **Press the button** **Turn the button**

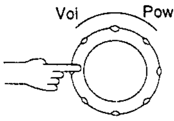
BASIC FUNCTIONS

SOUND

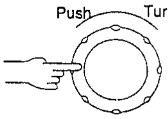

VOLUME:

21

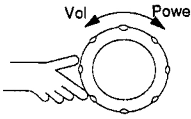
Min Max



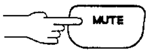
- **On/Off:** Switch the set On or Off



- Confirm the warning 'Always observe roadway signs and signals' (if a nav is connected)

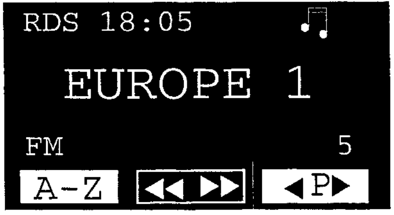


- **Volume:** Adjust the volume.



- **Mute (silence):** Mute the set or cancel the mute

RADIO

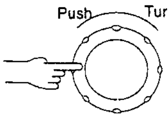

RDS 18:05 ♫

EUROPE 1

FM 5

A-Z ◀◀ ▶▶ ◀P▶

- **Radio mode:** Listen to the radio



- **Tuning method:** Select one of the following tuning methods.

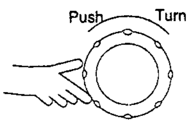
A-Z **To tune to a station name** (if an RDS station on FM). Stations are stored in alphabetical order.*If you hear an error bleep: update the list of station names by activating 'RDS memo'.*

◀◀ ▶▶ **- To tune to a frequency automatically.**
If 'Traffic' is activated the radio will only search for stations allowing the reception of traffic annoucements.

- To tune to a frequency manually (if 'Manual tuning is activated). Also press the ◎ button to stop the fast tuning. *After 50 seconds or after selecting a different tuning method the radio switches back to automatic frequency tuning.*

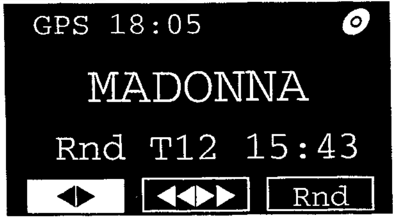
- To tune to a programme type (if 'PTY' search is activated). When no station is found or after selecting a different tuning method, the radio switches back to automatic frequency tuning.

◀P▶ **To tune to a preset.**



- **Tuning:** Tune in the desired station

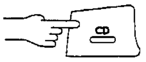
CD PLAYER


GPS 18:05

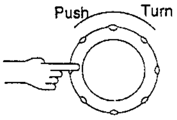
MADONNA

Rnd T12 15:43

◀▶ ◀◀▶▶ Rnd



- **CD player mode:** Listen to the inserted CD.

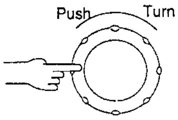


- **Select function:** Select one of the following CD player functions:

◀▶ **To select a specific track** (previous/next)

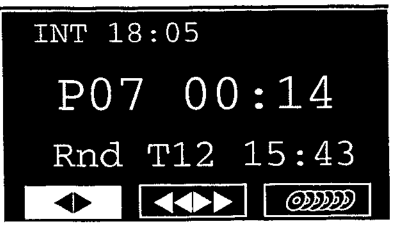
◀◀ ▶▶ **To move backwards/forwards.** Also press the ◎ button to stop the fast backward/forward.

Rnd **To switch on/off the playback of the tracks in random order.**



- **Activate selected function:** Move to another part of the CD or switch the random playback on/off.

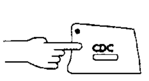
CD CHANGER (if connected)


INT 18:05

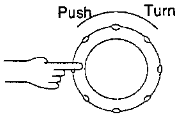
P07 00:14

Rnd T12 15:43

◀▶ ◀◀▶▶ ◎)))))



- **CD changer mode:** Listen to a CD loaded in the magazine and inserted in the CD changer.

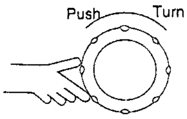


- **Select function:** Select one of the following CD changer functions:

◀▶ **To select a specific track** (previous/next)

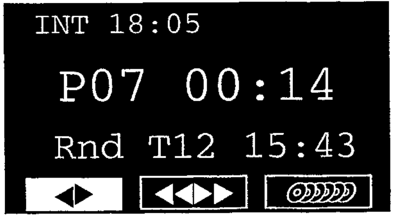
◀◀ ▶▶ **To move backwards/forwards.** Also press the ◎ button to stop the fast backward/forward.

◎))))) **To select a specific CD.**



- **Activate selected function:** Move to another part of the CD or to another CD.

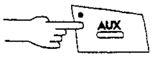
AUXILIARY (if portable player is connected)


INT 18:05

P07 00:14

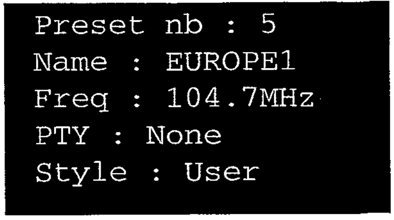
Rnd T12 15:43

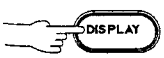
◀▶ ◀◀▶▶ ◎)))))



- **Auxiliary mode:** listen to the portable sound player.

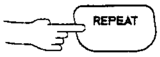
DISPLAY


Preset nb : 5
Name : EUROPE1
Freq : 104.7MHz
PTY : None
Style : User



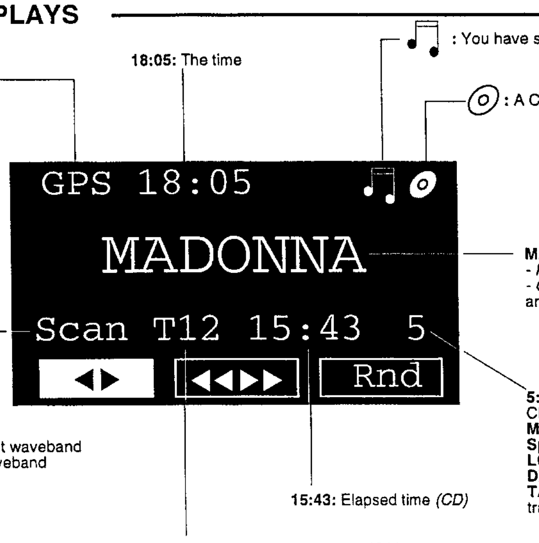
- **Display:** Show information on the sound output.

NAVIGATION (if connected)



- **Repeat:** Repeat the last spoken guidance message. During a phone call (if phone is linked to the set) these messages are replaced by beeps. You can then press this key to hear the spoken guidance message.

EXPLANATION DISPLAYS



GPS/RDS/INT: The selected 'Clock type' (GPS: available only when a nav is connected)

18:05: The time

♫ : You have selected a 'Sound style' other than 'User'

Ⓞ : A CD is inserted

MADONNA
- *Radio:* Station name / Frequency
- *CD:* CD title / current track number and elapsed time

Radio:
FM / FM AST / MW / MW AST / SW / LW:
The current waveband
- **Scan Frq:** Scanning frequencies on the current waveband
- **Scan Pn:** Scanning presets on the current waveband

CD:
- **Scan:** Scanning of the tracks
- **Rnd:** Tracks are played in random order
- **Rpt:** The current track is repeated

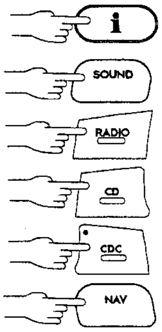
5: The preset number (radio)
CD number *(CD)*
MAN: Manually tuning to a station
Sport: Tuning to a program type
LO: Only tuning to a local station
DX: Tuning to a distant or local station
TA: tuning to a station that can receive traffic announcements

15:43: Elapsed time *(CD)*

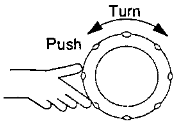
T12: Current track number *(CD)*

MENU OPERATION

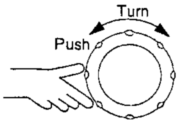
- **Menu on/off:** Enter/leave one of the following menus.



- **Information menu**
- **Sound menu**
- **Radio menu** (when already in radio mode)
- **CD menu** (when already in CD player mode)
- **CD changer menu** (when already in CD changer mode)
- **Navigation menu** (when a Nav is connected)



- **Selection:** Place the cursor on the desired option/character.
The following indications are given on screen:
- OPTION : Option in dotted characters cannot be selected.
- ▲▼ : Arrows in front of options indicate that more options are available than displayed.
- ✓ : A tick shows that the function is activated.
To enter a name select one character after another from the alphanumerical list.



- **Confirmation:** Confirm the selected option/character.
The following menu functions can also be available:
- **'QUIT'** and **'RETURN':** return to the previous display. 'QUIT' is often available when placing the cursor on the menu title.
- **'OK':** Confirm the entered name.
- **'DELETE':** Delete the last entered character.
- **'LIST':** display the list of possibilities.
- **'RESTORE':** Recall the name entered previously.

INFORMATION MENU

Traffic: Activate to listen to Traffic Announcement (TA) when broadcast (even if you play a CD or mute the set). The set may also receive traffic announcements from other stations.

- *If you hear an error beep:* The radio is not already tuned to a station enabling the reception of traffic announcements. The radio automatically searches until it finds another station.

- *If you hear error beeps at repeated intervals:* You are i an area where no traffic information is broadcast. Deactivate the 'Traffic' function or tune to a different station.

Also press the ◎ button to stop listening to a particular traffic announcement (the 'Traffic' function remains active).

News: Activate to listen to news bulletins when broadcast (even if you play a CD or mute the set). The set may also receive news bulletins from other stations. Traffic announcements may interrupt news bulletins. *'News' is not yet implemented in all countries.*

Also press the ◎ button to stop listening to a particular news bulletin (the 'News' function remains active).

Announcement level: Adjust the volume difference of traffic announcements, news bulletins and alarm messages.

SOUND MENU

Loudness: Activate to amplify the low and high notes at low volume settings.

Sound settings: Adjust the bass (low notes), treble (high notes), balance (left-right) and fader (rear-front). The bass and treble settings are stored independently for each sound source.

Sound style: Choose one of the predefined sound styles. Select 'User' to maintain your own bass and treble settings. The sound style is stored independently for each sound source.

Sound reset: Switch the loudness off, reset the sound settings to their mid-positions and adjust the 'Sound style' to 'User'.

▶ **Sound setup:** To adjust one of the following functions.

> **SDVC (Speed-dependent volume control, if a navigation system is connected):** Adjust the volume compensation linked to your driving speed.
>
> **Leveller:** Activate to adjust the volume of each sound source to the same level.
>
> **Loudness low:** Adjust the amplification of the low notes in loudness.
>
> **Loudness high:** Adjust the amplification of the high notes in loudness.
>
> **Bass frequency:** Select the average frequency of low notes.
>
> **Treble frequency:** Select the average frequency of high notes.

▶ **Initialization:** See 'INITIALIZATION SUBMENU'.

RADIO MENU

RDS Memo (only on FM): Activate update the list of station names you can tune to alphabetically. You hear a beep. Wait until the set has finished storing the RDS stations.

Autostore (only on FM and MW): Activate to automatically store 10 FM stations on the FM AST band or 10 MW stations on the MW AST band. You hear a beep. Wait until the set has finished storing the strongest stations.

Scan: Activate to briefly listen to each station or preset on the current waveband. Also press the ◎ button to deactivate this function when you hear a station you like.

Band: Select the desired waveband.

AF retuning (only on FM): Activate to maintain the best possible reception. The set continuously checks a list of Alternative Frequencies (AF) for the tuned radio station and automatically select the best frequency for you. Only deactivate this function when you hear short sound interruptions or when the set automatically tunes to an unwanted station.

Manual tuning: Activate to manually tune to a frequency when you can not find the desired station using automatic tuning.

Store preset: Store the station you are listening to as a preset. Then select its position in the preset list. When storing an FM station, the 'AF retuning' (on/off) is stored on the preset.

Recall program (only on FM): Select the name of the station you want to listen to from the list.

Recall preset: Choose the preset you want to listen to from the list.

PTY search (only on FM): Tune to a station according to the type of programme (PTY) being broadcast. Select the programme type from the list. *PTY is not yet implemented in all countries.*

▶ **Radio setup:** Adjust one of the following functions.

> **Search level:** Select 'LO' if you *only* wish to search local stations (strong stations) when tuning to a frequency automatically. Select 'DX' to search for distant stations too.
>
> **Tuner grid:** Select the tuner according to European or American standards.
>
> **Scan type:** Choose between a frenquency or a preset scan.

▶ **Initialization:** See 'INITIALIZATION SUBMENU'

CD PLAYER MENU

Scan: Activate to listen to the beginning of each track. Also press the ◎ button to deactivate this function when you hear a track you like.

Repeat track: Activate to replay your favourite track.

CD title: Assign a name to the CD you are listening to, with a maximum of 13 characters. If the memory containig 50 titles is full, select a title you want to delete before entering the new title.

▶ **CD setup:** Adjust one of the following functions.

> **Compression:** Activate to reduce the volume of loud sections and increase the volume at quiet sections.
>
> **Compression rate:** Select the amount of volume reduction/increase when the compression is switched on.

▶ **Initialization:** See 'INITIALIZATION SUBMENU'

CD CHANGER MENU

Scan: Activate to listen to the beginning of each track. Also press the ◎ button to deactivate this function when you hear a track you like.

Random: Activate to play the tracks on the CD in random order.

Repeat track: Activate to replay your favourite track.

Select CD: Select the desired CD from the list.

CD title: Assign a name to the CD you are listening to, with a maximum of 13 characters. If the memory containig 50 titles is full, select a title you want to delete before entering the new title.

▶ **CD changer setup:** Adjust one of the following functions.

Compression: Activate to reduce the volume of loud sections and increase the volume at quiet sections.

Compression rate: Adjust the level of volume reduction/increase when the compression is activated.

CD access: Choose whether you wish to select the CD number or the CD title from the 'Select CD' menu.

▶ **Initialization:** See 'INITIALIZATION SUBMENU'

INITIALIZATION SUBMENU

Language (if no navigation system is connected): Choose the language of the display readings.

Telephone: Select 'MUTE' to automatically interrupt the set's sound output when using your car phone. Select 'IN' when you also wish to amplify the received voice through the car speakers. Select 'NONE' if no car phone is connected to the set.

Telephone signal: Adjust according to your telephone mute signal ('LOW' in most cases).

Beep type: Select the type of confirmation beeps.

Guidance level (if navigation system is connected): Adjust the volume difference of the spoken guidance messages.

▶ **Clock settings:** To adjust the time.

Clock type: Select an iinternal clock (INT) or a clock which is automaticslly updated via RDS or via GPS (only if a navigation system is connected).

Clock format: Select the desired clock format.

Hour (if an internal clock type): Adjust the hours.

Minute (if an internal clock type): Adjust the minutes.

Summer time (if a GPS clock type): Add/substract an hour.

Timezone (if a GPS clock type): Determine the time difference with London Greenwich Mean Time.

Scan time: Select how many minutes the set scans one station or track.

On-off logic: Activate to limit the use of the set to one hour after you have removed the car ignition key.

Warning light: Activate to switch on the flashing red light when the detachable front is removed.

Contrast: Adjust the contrast of the display.

Loudspeaker test: Test the loudspeakers connections and their positioning. Switch the set off to end the test session.

DESCRIPTION OF THE CAR DIGITAL SIGNAL PROCESSOR (CDSP) SAA7701

The CDSP chip can perform all the signal functions in front of the power amplifier and behind the AM and FM demodulation and tape input. These functions are: interference absorption, stereo decoding, RDS decoding, weak signal processing (soft-mute, sliding stereo, etc...), Dolby-B tape noise reduction and the audio volume controls (volume, balance, fader, tone, dynamic compression). Some functions have been implemented in hardware and are not freely programmable. Digital audio signals from external sources with I2S format are accepted.There are four independent analog output channels. This enables separate tone and equalisation control for front and rear speakers.
The DSP can contain a basic program which enables already a set with AM/FM reception, sophisticated FM weak signal functions, MSS, Dolby-B tape noise reduction system, CD play with compressor function, separate bass and treble tone control and fader/balance control.

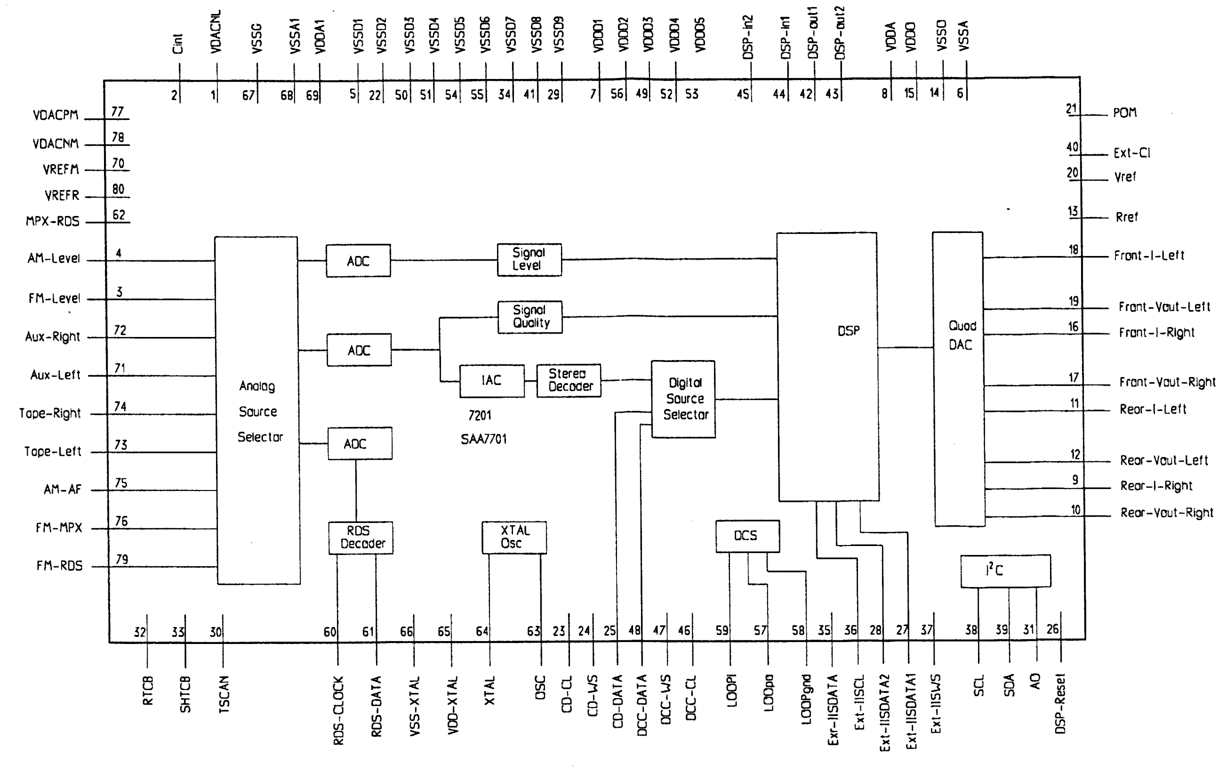
Hardware features

- Bit stream 3rd order Sigma-Delta A/D converters with anti alliasing broadband input filters
- D/A converters with four over sampling and noise shaping
- Digital stereo decoder
- Improved, digital IAC
- RDS processing with optional 16 bit buffer via separate channel (two tuner radio possible)
- Auxiliary analog CD input (CD-walkman, speech, economic CD-changer etc...)
- Two separate full I2S CD and DCC high performance interfaces
- Expandable with additional DSPs for sophisticated features through an I2S gateway
- Audio output short circuit protected
- I2C bus controlled
- Analog tape input
- -40 to +85° C operating temperature range

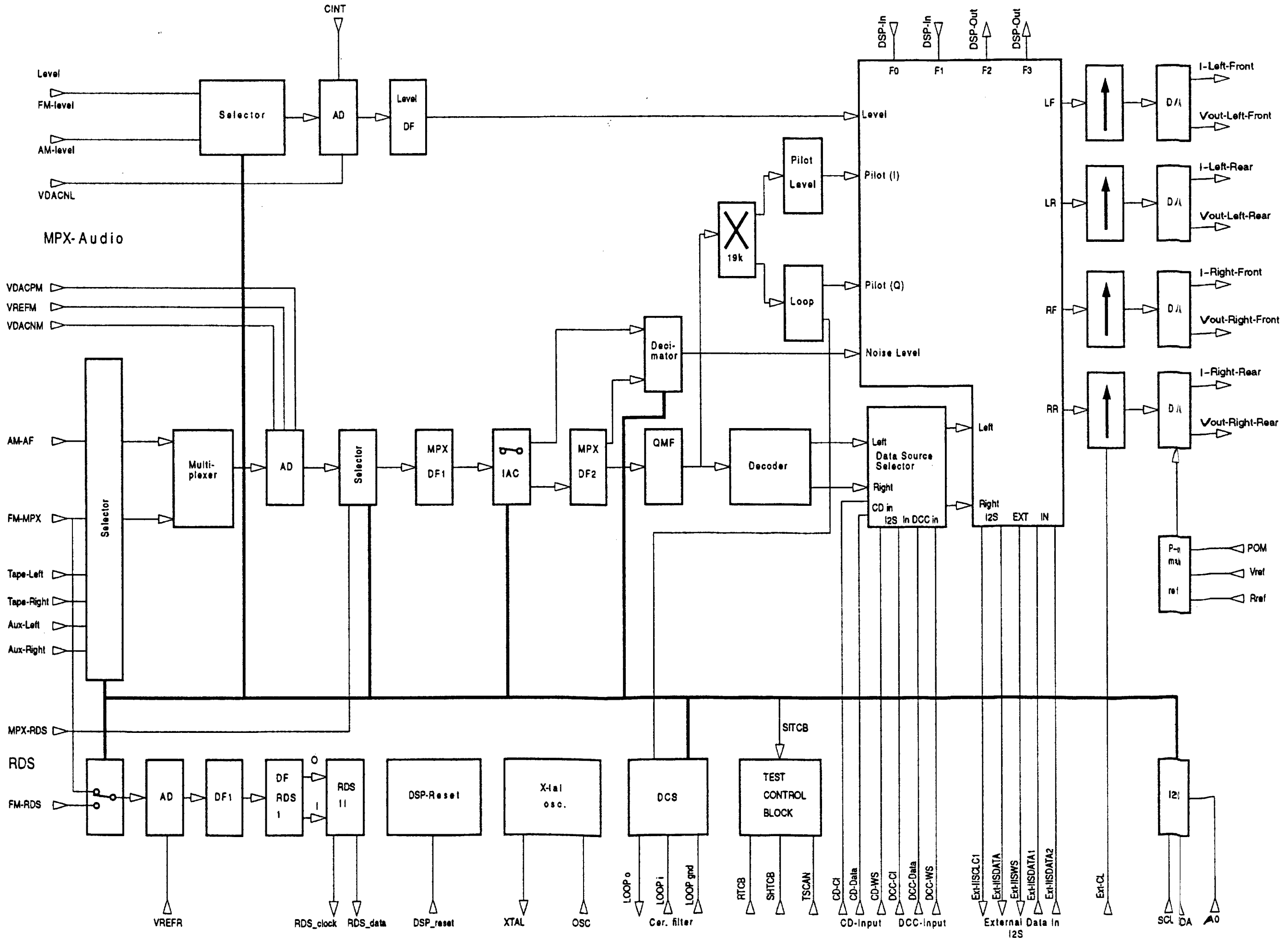
Software features

- Improved FM weak signal processing with more stereo
- Integrated 19KHz MPX filter and de-emphasis
- Electronic adjustments: FM/AM level, FM channel separation, Dolby level
- Baseband audio processing (treble/bass/balance/fader/volume)
- Dynamic loudness or bass boost
- Stereo 1 or 3 band parametric equaliser
- Automatic leveller (in combination with microprocessor)
- Tape equalisation (DCC analog playback)
- Music Search detection for tape (MSS)
- Pause detection for RDS updates
- Dolby-B tape noise reduction
- (adjustable) dynamic compressor
- CD/DCC De-emphasis processing
- Signal level, noise and multipath detection for RDS (I2C bus command)
- Hidden mute during RDS updates
- Improved AM reception

BLOCK DIAGRAM


Cint 2
VDACNL 1
VSSG 67
VSSA1 68
VDDA1 69
VSSD1 5
VSSD2 22
VSSD3 50
VSSD4 51
VSSD5 54
VSSD6 55
VSSD7 34
VSSD8 41
VSSD9 29
VDDD1 7
VDDD2 56
VDDD3 49
VDDD4 52
VDDD5 53
DSP-in2 45
DSP-in1 44
DSP-out1 42
DSP-out2 43
VDDA 8
VDDO 15
VSSO 14
VSSA 6
VDACPM 77
VDACNM 78
VREFM 70
VREFR 80
MPX-RDS 62
AM-Level 4
FM-Level 3
Aux-Right 72
Aux-Left 71
Tape-Right 74
Tape-Left 73
AM-AF 75
FM-MPX 76
FM-RDS 79
Analog Source Selector
ADC
ADC
ADC
Signal Level
Signal Quality
IAC
Stereo Decoder
Digital Source Selector
7201
SAA7701
RDS Decoder
XTAL Osc
DCS
DSP
Quad DAC
I²C
21 POM
40 Ext-Cl
20 Vref
13 Rref
18 Front-I-Left
19 Front-Vout-Left
16 Front-I-Right
17 Front-Vout-Right
11 Rear-I-Left
12 Rear-Vout-Left
9 Rear-I-Right
10 Rear-Vout-Right
32 RTCB
33 SHTCB
30 TSCAN
60 RDS-CLOCK
61 RDS-DATA
66 VSS-XTAL
65 VDD-XTAL
64 XTAL
63 OSC
23 CD-CL
24 CD-WS
25 CD-DATA
48 DCC-DATA
47 DCC-WS
46 DCC-CL
59 LOOPI
57 LOOpo
58 LOOPgnd
35 Exr-IISDATA
36 Ext-IISCL
28 Ext-IISDATA2
27 Ext-IISDATA1
37 Ext-IISWS
38 SCL
39 SDA
31 AO
26 DSP-Reset

FUNCTIONAL DESCRIPTION


CINT
Level
FM-level
AM-level
VDACNL
Selector
AD
Level DF
MPX-Audio
VDACPM
VREFM
VDACNM
AM-AF
FM-MPX
Tape-Left
Tape-Right
Aux-Left
Aux-Right
Selector
Multi-plexer
AD
Selector
MPX DF1
IAC
MPX DF2
Deci-mator
QMF
Decoder
19k
Pilot Level
Loop
DSP-In
DSP-In
DSP-Out
DSP-Out
F0
F1
F2
F3
Level
Pilot (I)
Pilot (Q)
Noise Level
Left
Data Source Selector
Right
CD in
I2S In DCC in
Left
Right
I2S
EXT
IN
LF
LR
RF
RR
D/A
I-Left-Front
Vout-Left-Front
I-Left-Rear
Vout-Left-Rear
I-Right-Front
Vout-Right-Front
I-Right-Rear
Vout-Right-Rear
P-o
ma
ref
POM
Vref
Rref
MPX-RDS
RDS
FM-RDS
AD
DF1
DF RDS 1
O
I
RDS II
DSP-Reset
X-tal osc.
DCS
SITCB
TEST CONTROL BLOCK
I2C
VREFR
RDS_clock
RDS_data
DSP_reset
XTAL
OSC
LOOP o
LOOP i
LOOP gnd
Cer. filter
RTCB
SHTCB
TSCAN
CD-Cl
CD-Data
CD-WS
DCC-Cl
DCC-Data
DCC-WS
CD-Input
DCC-Input
Ext-IISCLC1
Ext-IISDATA
Ext-IISWS
Ext-IISDATA1
Ext-IISDATA2
External Data In
I2S
Ext-CL
SCL
DA
A0

.PINNING OF THE CDSP SAA7701

SYMBOL	PIN	DESCRIPTION
VDACNL	1	Ground Reference Level AD DAC LEVEL
CINT	2	Level AD switch mode integrator connection
FM-level	3	FM-level input pin. Via this pin the level of the received FM-radio signal is fed to the CDSP. The level information is needed for a correct functioning of the weak signal behaviour.
AM-level	4	AM-level input pin. Via this pin the level of the received AM-radio signal is fed to the CDSP.
VSSD1	5	Supply ground 1 digital circuitry DACs
VSSA	6	Supply ground analog circuitry DACs
VDDD1	7	Positive supply 1 digital circuitry DACs
VDDA	8	Positive supply analog circuitry DACs
Rear-I-Right	9	Analog audio current output for Rear-right speaker
Rear-Vout-Right	10	Analog audio voltage output for Rear-right speaker
Rear-I-Left	11	Analog audio current output for Rear-left speaker
Rear-Vout-Left	12	Analog audio voltage output for Rear-left speaker
Rref	13	Input for the internal reference current source of the D/A converter
VSSO	14	Supply ground for output Op-amps DAC
VDDO	15	Positive supply for output Op-amps DAC
Front-I-Right	16	Analog audio current output for Front-right speaker
Front-Vout-Right	17	Analog audio voltage output for Front-right speaker
Front-I-Left	18	Analog audio current output for Front-left speaker
Front-Vout-left	19	Analog audio voltage output for Front-left speaker
Vref	20	Voltage input for the internal reference buffer amplifier of the D/A converter.
POM	21	Activates the Power On Mute. Timing is determined with an external capacitor.
VSSD2	22	Ground supply 2 digital circuitry
CD-CI	23	I^2S Clock input CD digital audio source. Also reference for 4* asf and asf. Selected if DIV-EXT/INT is not set. / Output LIRS scan chain 6
CD-WS	24	I^2S Word Select Input CD digital audio source / Input LIRS scan chain 6
CD-Data	25	I^2S Left/Right Data Input CD digital audio source / Input LIRS scan chain 1
DSP-reset	26	Input to reset DSP-core (active low) / input LIRS scan chain 3
Ext_IISDATA1	27	I^2S External Input Data channel 1 (front) from extra DSP chip / input CORE scan chain DIO
Ext_IISDATA2	28	I^2S External Input Data channel 2 (rear) for extra DSP chip
VSSD9	29	Ground supply 9 digital circuitry
TSCAN	30	Scan control (active high)
A0	31	Slave sub-address I^2C selection / Serial data input test control block (SITCB)
RTCB	32	Asynchronous Reset test control block (active high)
SHTCB	33	Shift clock test control block (active high)
VSSD7	34	Ground supply 7 digital circuitry
Ext_IISDATA	35	I^2S External Output Data for extra DSP chip / output LIRS scan chain 4; controlled by ENA_IIS (bit 13)
Ext_IISCL	36	I^2S External Output Clock for extra DSP chip / output LIRS scan chain 3; controlled by ENA_IIS (bit 13)
Ext_IISWS	37	I^2S External input/output Word select for extra DSP chip / output CORE scan chain DIO; controlled by ENA_IIS (bit 13)
SCL	38	Serial clock input (I^2C bus) / input LIRS scan chain 4
SDA	39	Serial data input/output (I^2C bus)
EXT-CI	40	External reference clock input to generate 4*asf and ASF synchronisation. To be used in case the I^2S clock inputs are not suitable. Selection if DIV-EXT/INT is set / Latch signal DAC data words in analog test mode.
VSSD8	41	Ground supply 8 digital circuitry
DSP_out1	42	Digital output 1 from DSP-core (F2 of status register) / output CORE scan chain (tri-state for Debug board)
DSP_out2	43	Digital output 2 from DSP-core (F3 of status register) / IAC trigger output / output DAC scan chain 1; actived by AGC_TRIG (bit 15)
DSP_in1	44	Digital input 1 for DSP-core (F0 of status register) / input LIRS scan chain 2
DSP_in2	45	Digital input 2 for DSP-core (F1 of status register) / input CORE scan chain
DCC-CI	46	I^2S Clock input DCC digital audio source. Also reference for 4*asf and asf. Selected if DIV-EXT/INT is not set. / Input DAC digital scan chain 1 / input DAC analog scan chain LEFT / input external MPX ADC if SEL-EXT/ADC is set.
DCC-WS	47	I^2S Word Select input DCC digital audio source / input DAC digital scan chain 2 / input DAC analog scan chain RIGHT / input external RDS ADC if SEL-EXT/ADC is set.
DCC-Data	48	I^2S Left/RIGHT Data input DCC digital audio source / output LIRS scan chain 5 / input external LEVEL ADC if SEL-EXT/ADC is set.
VDDD3	49	Positive supply 3 digital circuitry
VSSD3	50	Ground supply 3 digital circuitry
VSSD4	51	Ground supply 4 digital circuitry
VDDD4	52	Positive supply 4 digital circuitry
VDDD5	53	Positive supply 5 digital circuitry
VSSD5	54	Ground supply 5 digital circuitry
VSSD6	55	Ground supply 6 digital circuitry
VDDD2	56	Positive supply 2 digital circuitry
LOOPo	57	Unfiltered DCS clock output / output DAC scan chain 2 / LEVEL A/D bitstream output in analog A/D test mode / bit slicer output in slicer test mode
LOOPgnd	58	Ground connection DCS filter
LOOPi	59	Filtered DCS clock input / Bit slicer input in slicer test mode
RDS-Clock	60	Radio Data System bit clock output / output LIRS scan chain 1 / MPX A/D bitstream output in analog AD test mode / RDS external clock input; controlled by SEL-BUF/BUF (bit 7) / X-tal output in slicer test mode.
RDS-Data	61	Radio Data System data output / output LIRS scan chain 2 / RDS A/D bitstream output in analog AD test mode
MPX-RDS	62	Selects in FM-mode between FM-MPX and RDS-MPX input signal to the MPX decimation filter / input LIRS scan chain 5 / input A/D scan chain in analog test mode
OSC	63	Crystal oscillator output: Drive output to 36.860 MHz crystal or forced input in slave mode
XTAL	64	Crystal oscillator input: local crystal oscillator sense
VDD_XTAL	65	Positive supply X-TAL circuitry
VSS_XTAL	66	Ground supply X-TAL circuitry
VSSG	67	Ground guards ADs
VSSA1	68	Ground supply ADs analog
VDDA1	69	Positive supply ADs analog
VREFM	70	Mid ref voltage MPX AD and buffers
Aux-Left	71	Analog input pin for Auxiliary-Left signal
Aux-Right	72	Analog input pin for Auxiliary-Right signal
Tape-Left	73	Analog input pin for Tape-Left signal
Tape-Right	74	Analog input pin for Tape-Right signal
AM-AF	75	Analog input pin for AM audio frequency
FM-MPX	76	Analog input pin for FM-Multiplex signal
VDACPM	77	Positive reference voltage AD DAC MPX and RDS
VDACNM	78	Ground reference voltage AD DAC MPX and RDS
FM-RDS	79	Analog FM-MPX input pin for RDS decoding
VREFR	80	Mid ref voltage RDS AD, LEVEL AD and buffers

Explanation: LIRS is the abbreviation of the level, IAC, RDS and Stereo decoder part.

Check and Alignment

For all measurements, please refer to the manual "General Check & Alignment procedures for Car Systems" 4822 725 25456, unless otherwise stated.

Current and voltage

1) SET OFF (A6 not connected)

SET OFF	Voltage	Current +Acc ON	Current +Acc OFF	Supply µP 560 pin 14	supply µP XA pin 17	V_LOW pin 4- 74HC251
Acc Supply	+12.6V	< 2mA		4. 7V	5V	5V
Perm Supply	+12.6V	< 2mA	<3 mA Led is ON - Front is out			

2) SET ON (A6 not connected)

Reset µP 560 pin 30	Reset µP XA pin 4	5V supply µP XA pin 17	5V supply µP 560 pin 14	V_LOW 74HC251 pin 4	5V Switch mode pin 2	8.5V LF85CDT pin 3	EEprom supply pin 8
0V	5V	5V	5V	5V	5.3V	8.5V	5V

Reference oscillator frequencies (to be measured via a X10 probe)

device	MSM 6307	83CE560	P51XAG3	SAA7701	SAA7366T	SAA1305T
pin	24 & 25	51 & 52	14 & 15	63 & 64	4	16 & 17
frequency	6 MHz 0.5%	16 MHz 0.5%	24MHz 0.5%	36.860 MHz 60 ppm	11.2896 MHz 60 ppm	32.768KHz 60 ppm

Checks:
1) FM

FM mute	98 MHz 1mV	output at load resistor R & L = 775 mV = REF
	no signal	output should be < -24 dB (REF - 24 dB)

Demodulated FM level	98 MHz	215 mV 2dB
	Input	MPX Output of IC96 (pin 10)

Limiting point α-3dB	FM 98MHz	1mV 400Hz	6µV	4µV	9µV
	RANGE	INPUT	NOMINAL	MIN	MAX

Search levels	Input	Dx: 10µV < X < 20µV Local : 190µV < X < 290µV
	98 MHz	

2) AM

Demodulated AM level	1053KHz - m=30% - 1KHz	230 mV 2dB
	Input	Audio output of IC96 (pin 19)

Sensivity at 26dB S/N	162KHz	m = 30%	400Hz	< 38µV
	1053KHz			< 30µV
	6100KHz			<25µV

Search levels	Input	Dx: 10µV < X < 20µV Local : 35µV < X < 100µV
	1053KHz	

No alignment is needed for radio part. The tuner module IC96 is pre-aligned in the factory.
Dolby alignment, crosstalk alignment and FM DC level curve learning procedure are performed via a special equipment and software, not yet available in Service.
Some values are stored in the EEprom.
The EEprom available in service will contain mean values, that could affect slightly the performance of the set. It is the only solution until further notice.
Consequence: If you change the tuner module, change also the EEprom.

CD part

Test CD	Test	Result
Eccent-music 150um 4822 397 30279	Insert disk and play track 01	No failure
Vertical deviation 4822 397 30282	Check loading, display of number of tracks and total time. Select track no 9 time 00.20 listen to the disk during 4 seconds	no electrical nor mechanical noise

Test CD	Test		Result
Audio signal disk 1 4822 397 30184	Compression Off	Crosstalk track 67 and 71	Crosstalk < -65dB
	Compression On		Crosstalk < -60dB

Signal to noise ratio

A weighted filter, track 1 versus track 49 of disk 1	
Compression Off	S / N > 75dB
Compression On (default 1)	S / N > 45dB

Test modes

-<u>Functional test</u> - This test checks the functionality of the user inputs (switches, rotary switches, infra red remote control).

Entering the test:
Press Nav + Sound + Power keys
The buttons illumination led's are switched on sequentially every 250 ms. The day/night output is switched on and off every second.
A start message is displayed:

```
EJECT KEY TEST
SLIDING DOOR



```

Open the front by pushing the release button, then press eject key, and close the front again.
The display shows:

```
KEYBOARD TEST




```

Press all the buttons of the keyboard. A specific message appears at each key pressed, e.g.:

```
MUTE KEY




```

When all the key are tested, the display shows:

```
KEYBOARD OK
  SOUND ROTARY



```

Turn the volume button in both directions
The display shows:

```
KEYBOARD OK
<<SOUND ROTARY>>
  MENU ROTARY


```

Turn the menu button in both directions
The display shows:

```
KEYBOARD OK
<<SOUND ROTARY>>
<<MENU ROTARY>>
RC5

```

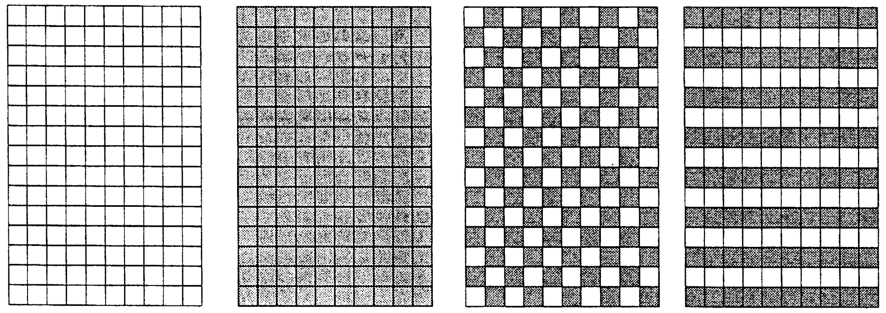
Press Enter switch of the remote control
The display shows:

```
KEYBOARD OK
<<SOUND ROTARY>>
<<MENU ROTARY>>
RC5 >> >>
PRESS ANY KEY->T7
```

If this test is successful, pressing any key enters the test of the Hardware/Software interface between the processor and the LCD driver, as well between LCD driver and LCD, and functional test of illumination.
The display shows sequentially different patterns, the sequence is done by pressing the CD switch of the keyboard.
At any time, the dimming test can be executed by masking the light sensor (under the 'DISPLAY' key).

To exit this test, switch Off the set.

Patterns:

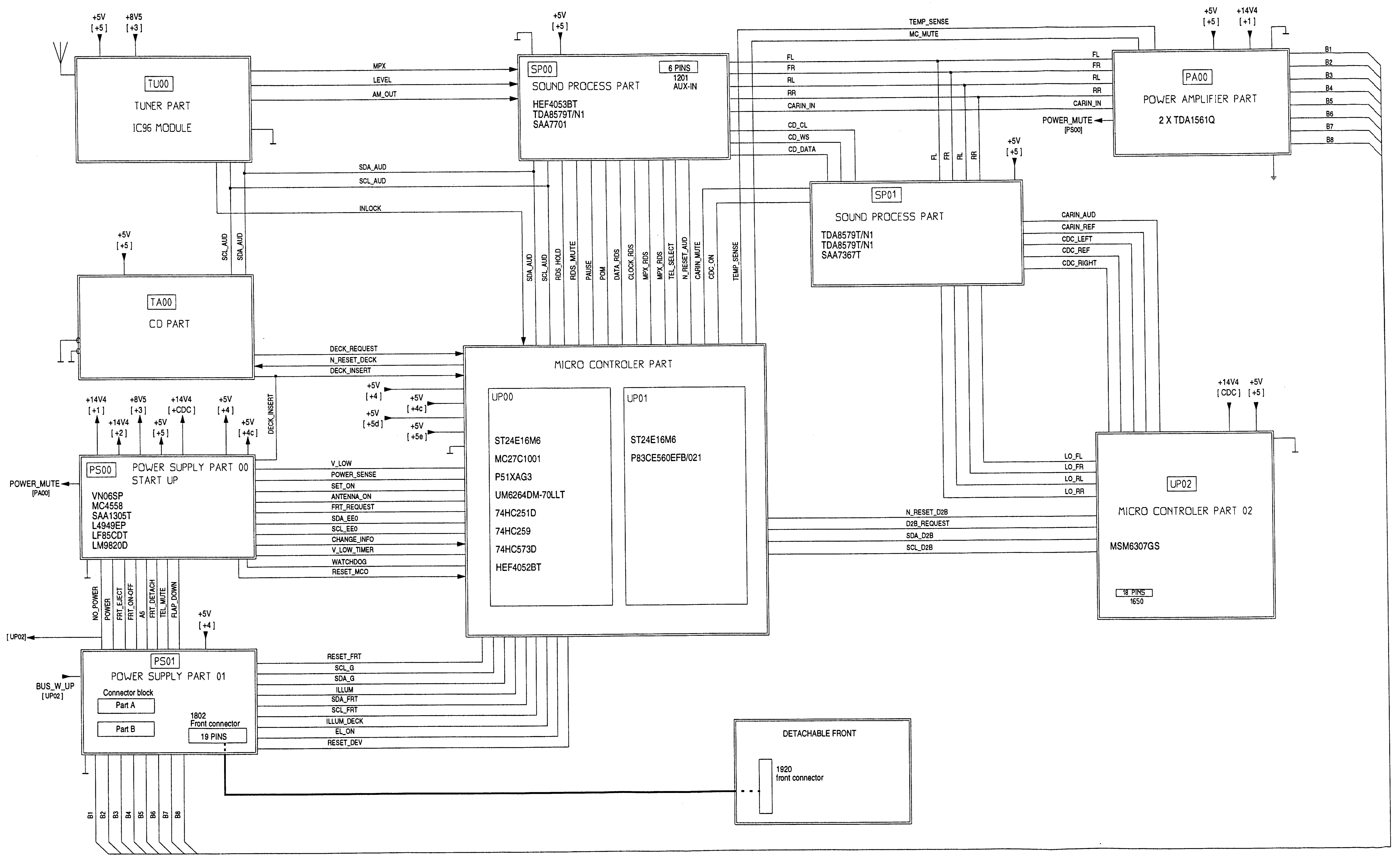


<u>- Service test:</u>
Press Info+ Display+ Power keys
The following cycle is executed continuously:
- Display the same patterns as the previous test, each pattern being displayed during 5 sec.
- Display the real time calculated check-sum of each processor, diring 5 sec.
- Display the soft identity of each processor during 5 sec.
- Display the version of each processor during 5 sec.

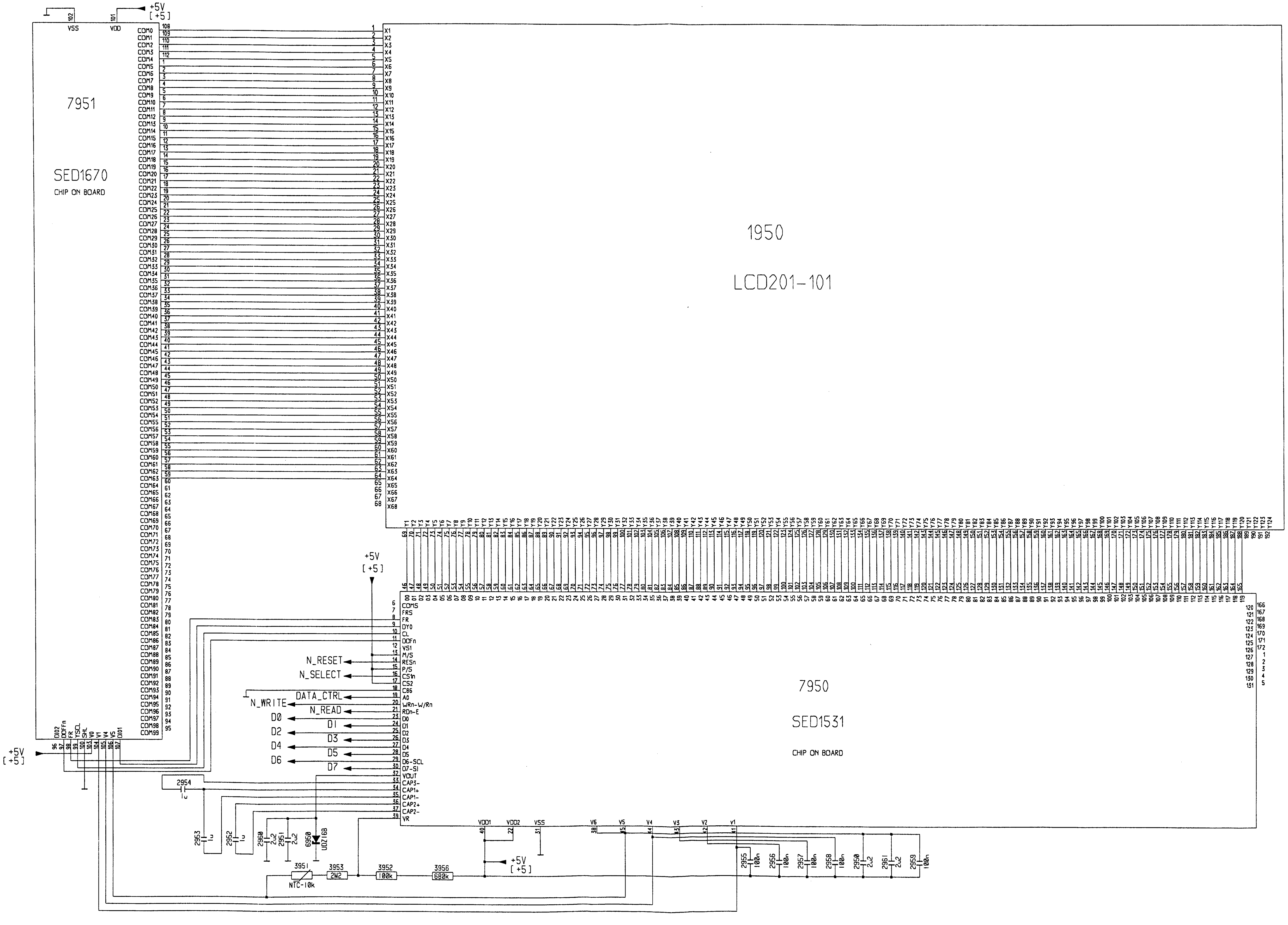
To exit this test, switch Off the set.

ELECTRICAL BLOC DIAGRAM

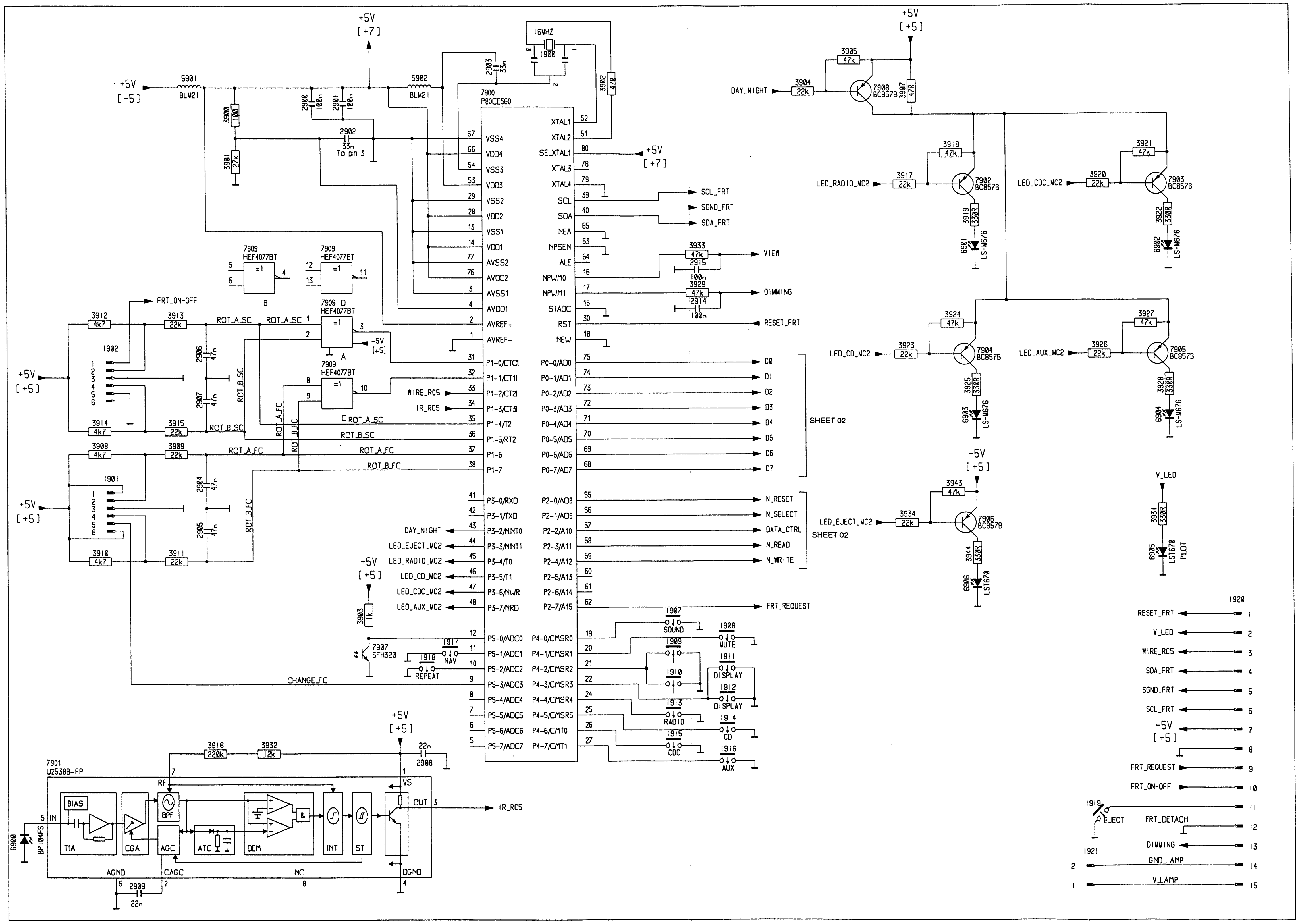
22RC959/00

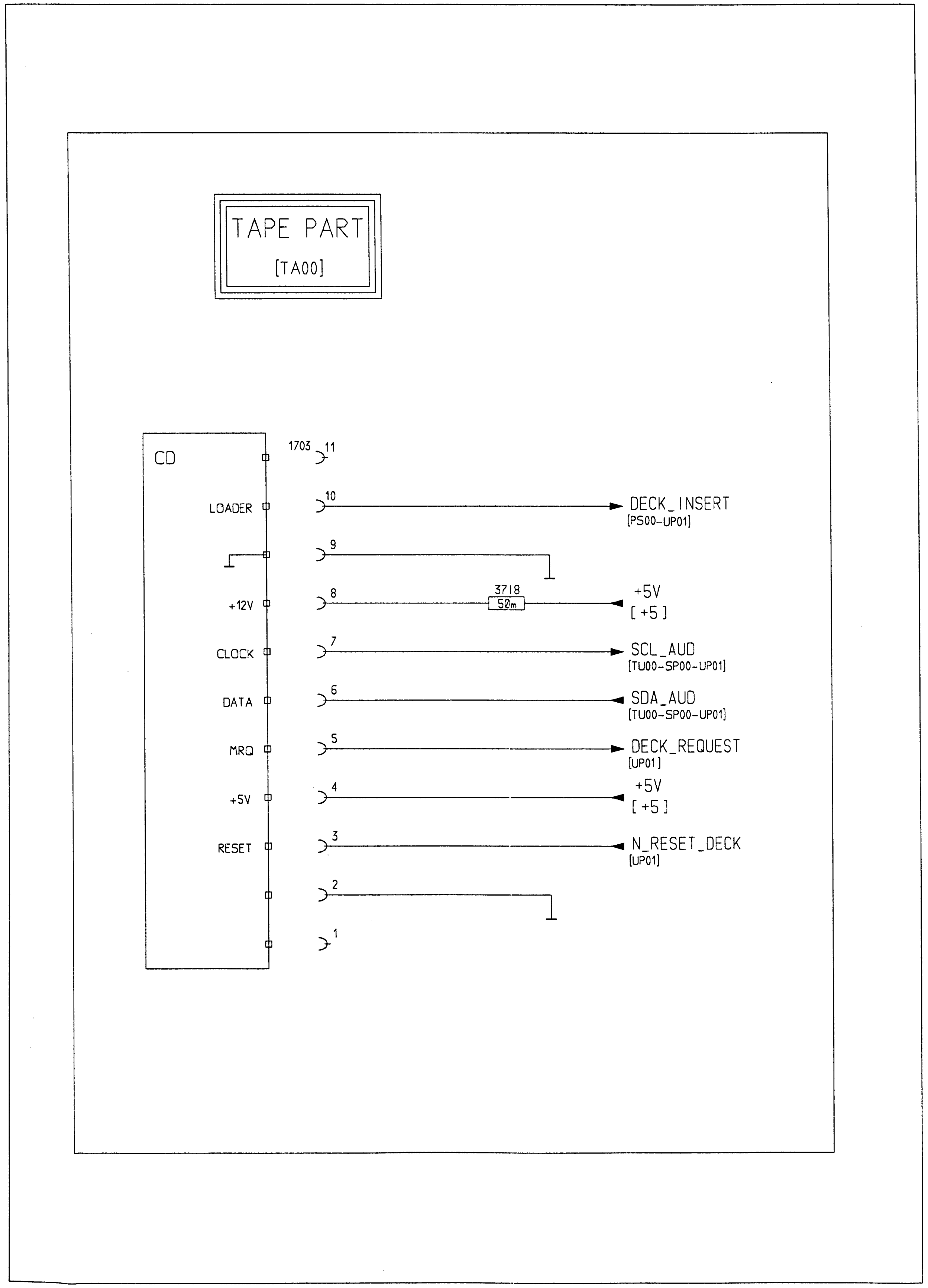

+5V [+5]
+8V5 [+3]
TU00
TUNER PART
IC96 MODULE
MPX
LEVEL
AM_OUT
+5V [+5]
SP00
SOUND PROCESS PART
HEF4053BT
TDA8579T/N1
SAA7701
6 PINS
1201
AUX-IN
TEMP_SENSE
MC_MUTE
FL
FR
RL
RR
CARIN_IN
CD_CL
CD_WS
CD_DATA
+5V [+5]
+14V4 [+1]
PA00
POWER AMPLIFIER PART
2 X TDA1561Q
POWER_MUTE
[PS00]
B1
B2
B3
B4
B5
B6
B7
B8
SDA_AUD
SCL_AUD
INLOCK
SCL_AUD
SDA_AUD
+5V [+5]
SP01
SOUND PROCESS PART
TDA8579T/N1
TDA8579T/N1
SAA7367T
CARIN_AUD
CARIN_REF
CDC_LEFT
CDC_REF
CDC_RIGHT
SDA_AUD
SCL_AUD
RDS_HOLD
RDS_MUTE
PAUSE
POM
DATA_RDS
CLOCK_RDS
MPX_RDS
TEL_SELECT
N_RESET_AUD
CARIN_MUTE
CDC_ON
TEMP_SENSE
+5V [+5]
TA00
CD PART
DECK_REQUEST
N_RESET_DECK
DECK_INSERT
MICRO CONTROLER PART
UP00
ST24E16M6
MC27C1001
P51XAG3
UM6264DM-70LLT
74HC251D
74HC259
74HC573D
HEF4052BT
UP01
ST24E16M6
P83CE560EFB/021
+5V [+4]
+5V [+4c]
+5V [+5d]
+5V [+5e]
+14V4 [CDC]
+5V [+5]
LO_FL
LO_FR
LO_RL
LO_RR
UP02
MICRO CONTROLER PART 02
MSM6307GS
18 PINS
1650
N_RESET_D2B
D2B_REQUEST
SDA_D2B
SCL_D2B
+14V4 [+1]
+8V5 [+3]
+14V4 [+CDC]
+5V [+4]
+14V4 [+2]
+5V [+5]
+5V [+4c]
DECK_INSERT
POWER_MUTE
[PA00]
PS00
POWER SUPPLY PART 00
START UP
VN06SP
MC4558
SAA1305T
L4949EP
LF85CDT
LM9820D
V_LOW
POWER_SENSE
SET_ON
ANTENNA_ON
FRT_REQUEST
SDA_EE0
SCL_EE0
CHANGE_INFO
V_LOW_TIMER
WATCHDOG
RESET_MCO
NO_POWER
POWER
FRT_EJECT
FRT_ON-OFF
A5
FRT_DETACH
TEL_MUTE
FLAP_DOWN
+5V [+4]
[UP02]
BUS_W_UP
[UP02]
PS01
POWER SUPPLY PART 01
Connector block
Part A
Part B
1802
Front connector
19 PINS
RESET_FRT
SCL_G
SDA_G
ILLUM
SDA_FRT
SCL_FRT
ILLUM_DECK
EL_ON
RESET_DEV
DETACHABLE FRONT
1920
front connector
B1
B2
B3
B4
B5
B6
B7
B8

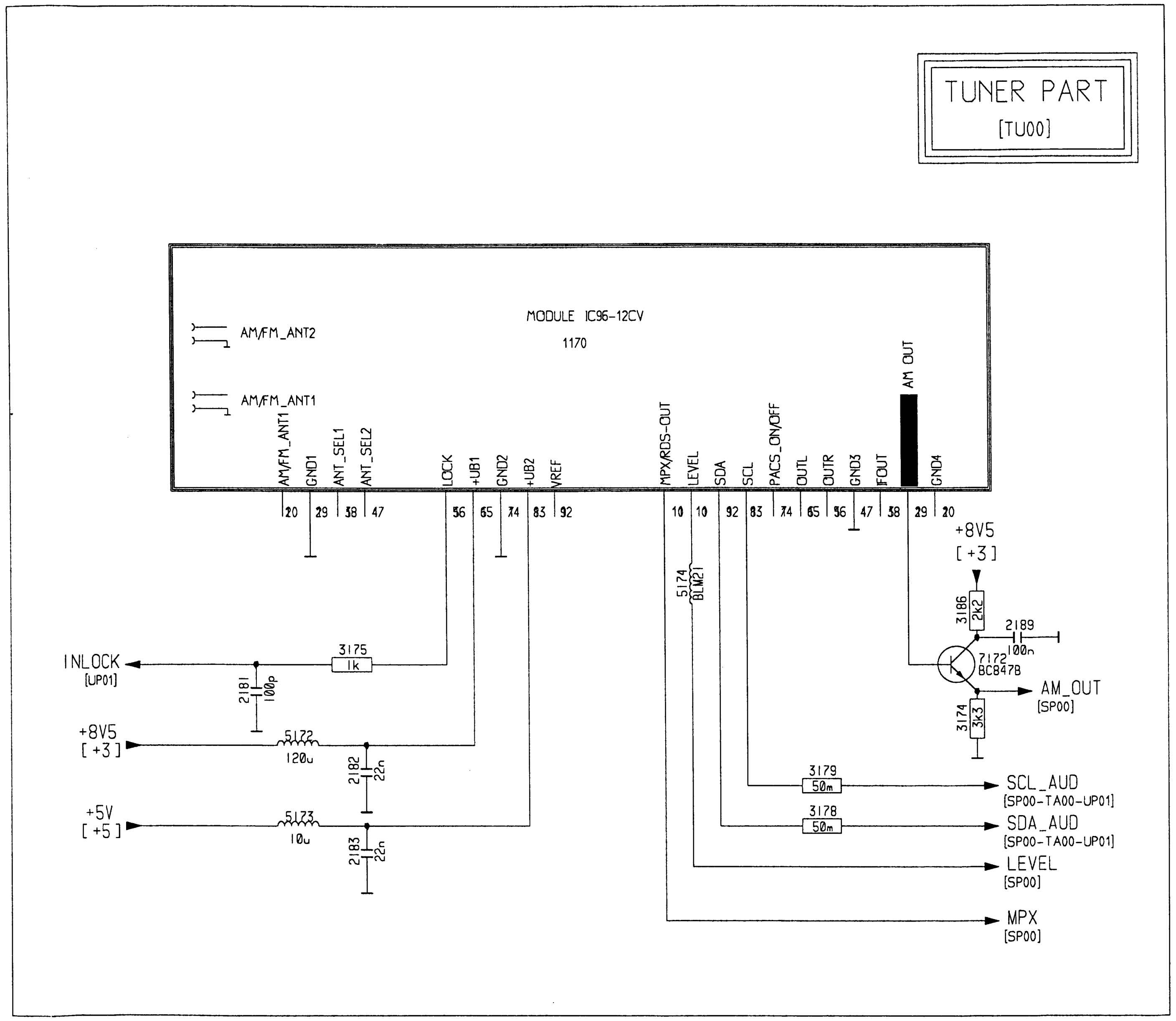
WARNING: The front schematic diagrams are given for information only. The complete front itself is a service part, not repairable.


7951
SED1670
CHIP ON BOARD
VSS
VDD
+5V
[+5]
COM0 … COM99
X1 … X68
1950
LCD201-101
Y1 … Y124
7950
SED1531
CHIP ON BOARD
COMS
FRS
FR
DYO
CL
DOFn
VS1
M/S
RESn
P/S
CS1n
CS2
C86
A0
WRn-W/Rn
RDn-E
D0
D1
D2
D3
D4
D5
D6-SCL
D7-SI
VOUT
CAP3-
CAP1+
CAP1-
CAP2+
CAP2-
VR
VDD1
VDD2
VSS
V6
V5
V4
V3
V2
V1
N_RESET
N_SELECT
DATA_CTRL
N_WRITE
N_READ
D0
D1
D2
D3
D4
D5
D6
D7
DOO2
DOFn
FR
YSCL
SHL
V0
V1
V4
V5
DOO1
2954
1u
2953
1u
2952
1u
2960
2u2
2951
2u2
6950
UDZ16B
3951
NTC-10k
3953
2M2
3952
100k
3956
680k
2955
100n
2956
100n
2957
100n
2958
100n
2950
2u2
2961
2u2
2959
100n

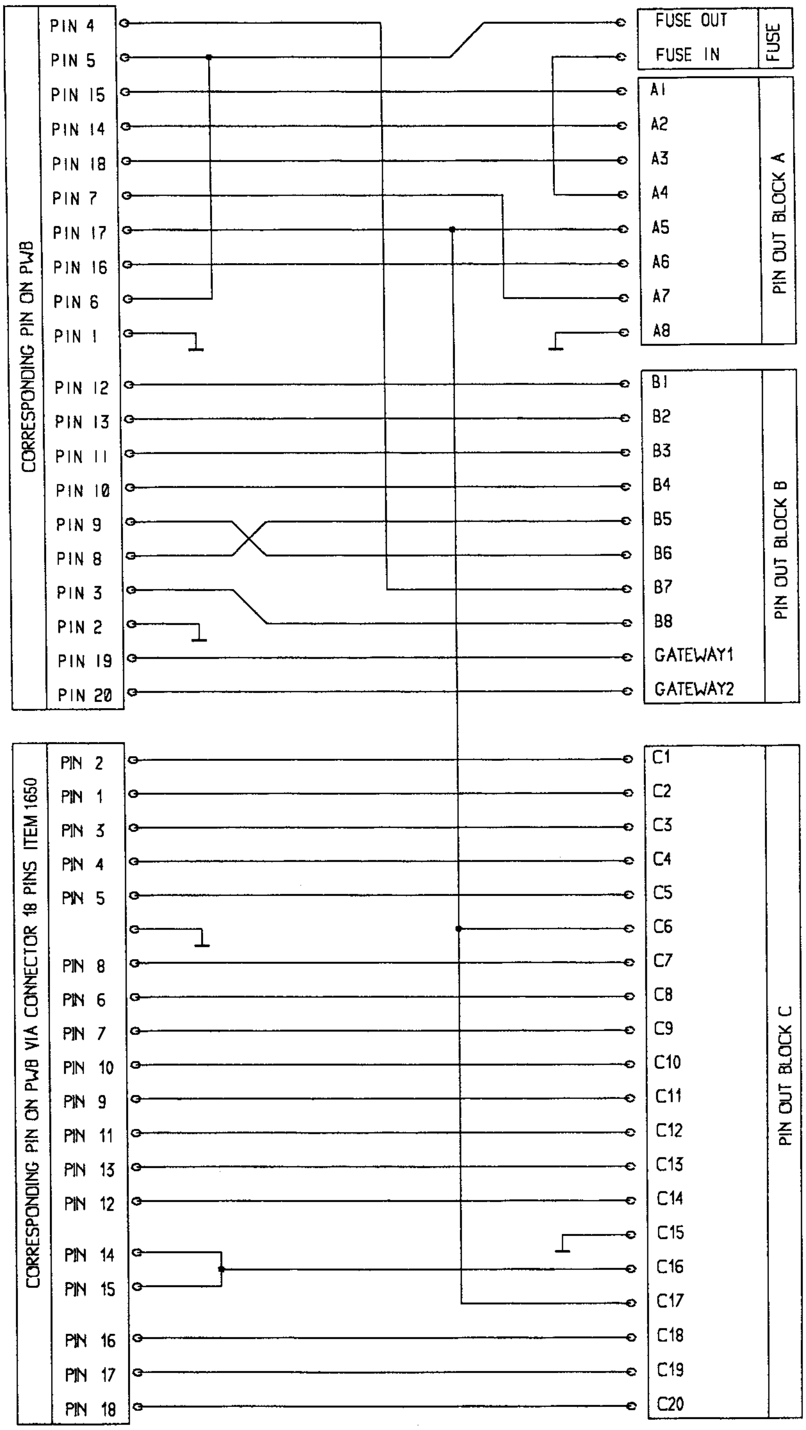
WARNING: The front schematic diagrams are given for information only. The complete front itself is a service part, not repairable.


+5V [+5]
5901 BLM21
5902 BLM21
+5V [+7]
16MHZ 1900
2903 33n
3902 470
7900 P80CE560
2900 100n
2901 100n
3900 100
3901 22k
2902 33n To pin 3
VSS4
VDD4
VSS3
VDD3
VSS2
VDD2
VSS1
VDD1
AVSS2
AVDD2
AVSS1
AVDD1
AVREF+
AVREF-
XTAL1
XTAL2
SELXTAL1
XTAL3
XTAL4
SCL
SDA
NEA
NPSEN
ALE
NPWM0
NPWM1
STADC
RST
NEW
SCL_FRT
SGND_FRT
SDA_FRT
3933 47k
2915 100n
VIEW
3929 47k
2914 100n
DIMMING
RESET_FRT
P1-0/CT0I
P1-1/CT1I
P1-2/CT2I
P1-3/CT3I
P1-4/T2
P1-5/RT2
P1-6
P1-7
P0-0/AD0
P0-1/AD1
P0-2/AD2
P0-3/AD3
P0-4/AD4
P0-5/AD5
P0-6/AD6
P0-7/AD7
D0
D1
D2
D3
D4
D5
D6
D7
SHEET 02
P3-0/RXD
P3-1/TXD
P3-2/NINT0
P3-3/NINT1
P3-4/T0
P3-5/T1
P3-6/NWR
P3-7/NRD
P2-0/A08
P2-1/A09
P2-2/A10
P2-3/A11
P2-4/A12
P2-5/A13
P2-6/A14
P2-7/A15
N_RESET
N_SELECT
DATA_CTRL
N_READ
N_WRITE
SHEET 02
FRT_REQUEST
DAY_NIGHT
LED_EJECT_MC2
LED_RADIO_MC2
LED_CD_MC2
LED_CDC_MC2
LED_AUX_MC2
WIRE_RC5
IR_RC5
PS-0/ADC0
PS-1/ADC1
PS-2/ADC2
PS-3/ADC3
PS-4/ADC4
PS-5/ADC5
PS-6/ADC6
PS-7/ADC7
P4-0/CMSR0
P4-1/CMSR1
P4-2/CMSR2
P4-3/CMSR3
P4-4/CMSR4
P4-5/CMSR5
P4-6/CMT0
P4-7/CMT1
1907 SOUND
1908 MUTE
1909
1910
1911 DISPLAY
1912 DISPLAY
1913 RADIO
1914 CD
1915 CDC
1916 AUX
1917 NAV
1918 REPEAT
3903 1k
7907 SFH320
CHANGE_FC
7909 HEF4077BT
FRT_ON-OFF
ROT_A_SC
ROT_B_SC
ROT_A_FC
ROT_B_FC
3912 4k7
3913 22k
3914 4k7
3915 22k
3908 4k7
3909 22k
3910 4k7
3911 22k
2906 4n7
2907 4n7
2904 4n7
2905 4n7
1902
1901
+5V [+5]
7901 U2538B-FP
3916 220k
3932 12k
2908 22n
2909 22n
6900 BP104FS
BIAS
TIA
CGA
BPF
AGC
ATC
DEM
INT
ST
RF
VS
OUT
IR_RC5
AGND
CAGC
NC
DGND
3905 47k
3904 22k
7908 BC857B
3907 47R
3918 47k
3917 22k
7902 BC857B
3919 330R
6901 LS-M676
3921 47k
3920 22k
7903 BC857B
3922 330R
6902 LS-M676
3924 47k
3923 22k
7904 BC857B
3925 330R
6903 LS-M676
3927 47k
3926 22k
7905 BC857B
3928 330R
6904 LS-M676
3943 47k
3934 22k
7906 BC857B
3944 330R
6906 LST670
V_LED
3931 330R
6905 LST670 PILOT
1920
RESET_FRT 1
V_LED 2
WIRE_RC5 3
SDA_FRT 4
SGND_FRT 5
SCL_FRT 6
+5V [+5] 7
8
FRT_REQUEST 9
FRT_ON-OFF 10
1919 EJECT 11
FRT_DETACH 12
DIMMING 13
1921
GND_AMP 14
V_AMP 15


TAPE PART
[TA00]
CD
1703
11
LOADER
10
DECK_INSERT
[PS00-UP01]
9
+12V
8
3718
50m
+5V
[+5]
CLOCK
7
SCL_AUD
[TU00-SP00-UP01]
DATA
6
SDA_AUD
[TU00-SP00-UP01]
MRQ
5
DECK_REQUEST
[UP01]
+5V
4
+5V
[+5]
RESET
3
N_RESET_DECK
[UP01]
2
1


TUNER PART
[TU00]
MODULE IC96-12CV
1170
AM/FM_ANT2
AM/FM_ANT1
AM/FM_ANT1
GND1
ANT_SEL1
ANT_SEL2
LOCK
+UB1
GND2
+UB2
VREF
MPX/RDS-OUT
LEVEL
SDA
SCL
PACS_ON/OFF
OUTL
OUTR
GND3
IFOUT
AM OUT
GND4
20
29
38
47
56
65
74
83
92
10
10
92
83
74
65
56
47
38
29
20
INLOCK
[UP01]
3175
1k
2181
100p
+8V5
[+3]
5172
120u
2182
22n
+5V
[+5]
5173
10u
2183
22n
5174
BLM21
+8V5
[+3]
3186
2k2
2189
100n
7172
BC847B
AM_OUT
[SP00]
3174
3k3
3179
50m
SCL_AUD
[SP00-TA00-UP01]
3178
50m
SDA_AUD
[SP00-TA00-UP01]
LEVEL
[SP00]
MPX
[SP00]

CONNECTOR BLOCK SCHEMATIC DIAGRAM


CORRESPONDING PIN ON PWB
PIN 4
PIN 5
PIN 15
PIN 14
PIN 18
PIN 7
PIN 17
PIN 16
PIN 6
PIN 1
PIN 12
PIN 13
PIN 11
PIN 10
PIN 9
PIN 8
PIN 3
PIN 2
PIN 19
PIN 20
FUSE OUT
FUSE IN
FUSE
A1
A2
A3
A4
A5
A6
A7
A8
PIN OUT BLOCK A
B1
B2
B3
B4
B5
B6
B7
B8
GATEWAY1
GATEWAY2
PIN OUT BLOCK B
CORRESPONDING PIN ON PWB VIA CONNECTOR 18 PINS ITEM 1650
PIN 2
PIN 1
PIN 3
PIN 4
PIN 5
PIN 8
PIN 6
PIN 7
PIN 10
PIN 9
PIN 11
PIN 13
PIN 12
PIN 14
PIN 15
PIN 16
PIN 17
PIN 18
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
PIN OUT BLOCK C

2RC959/00

SAA1305T

Short description

The SAA1305T is an on/off logic IC which can be used in a car radio to interface between a microprocessor and various input signals such as: Ignition, low supply detection, on/off key, external control signals. It contains 8 inputs with accurate schmitt triggers and clamp circuits. The main function of this IC is an intelligent I/O expander with 2 modes of operation:

1- Normal I/O expander. The uP (master) is running, SAA1305T acts as a slave.
2- Sleep mode of set: the uP is stopped, SAA1305T acts like a master. During an event, the uP is awakened.

The communication with the IC is done via I2C bus.
Extra functions of the SAA1305T are:

-) Blinking LED generator
-) One day clock
-) Watch dog mode

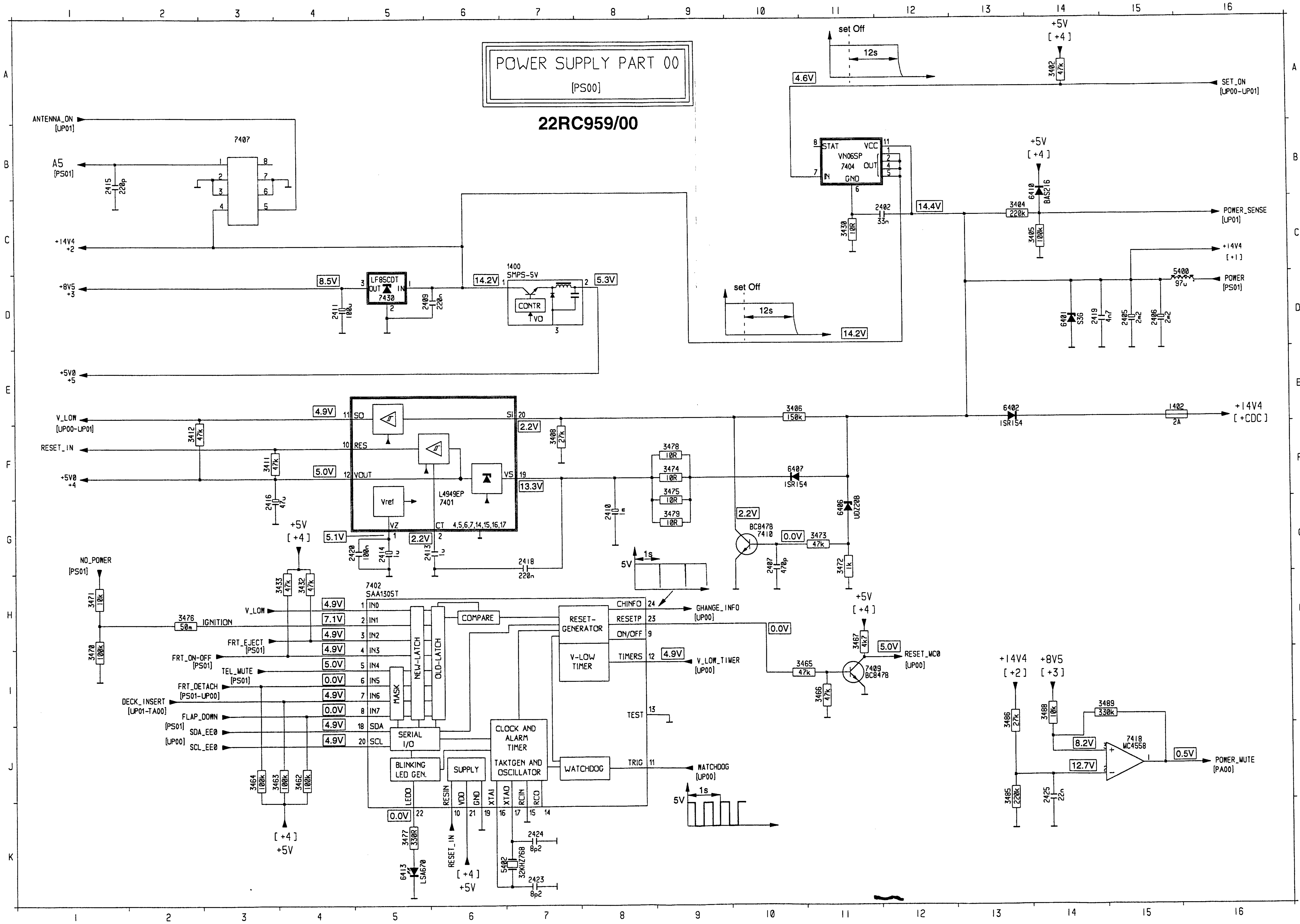
Features

- 8 inputs with accurate schmitt triggers and clamp circuits.
- Ultra low quiescent current.
- Reset generator circuit.
- Changed info output.
- On/off output for controlling a regulator IC which supplies the uP.
- 32KHz RC oscillator and/or a 32KHz X-tal oscillator.
- No delayed reset needed (start-up behaviour oscillator fixed by internal logic)
- Watch dog function.
- Blinking LED oscillator with drive circuit for LED.
- Clock function.

Pinning:

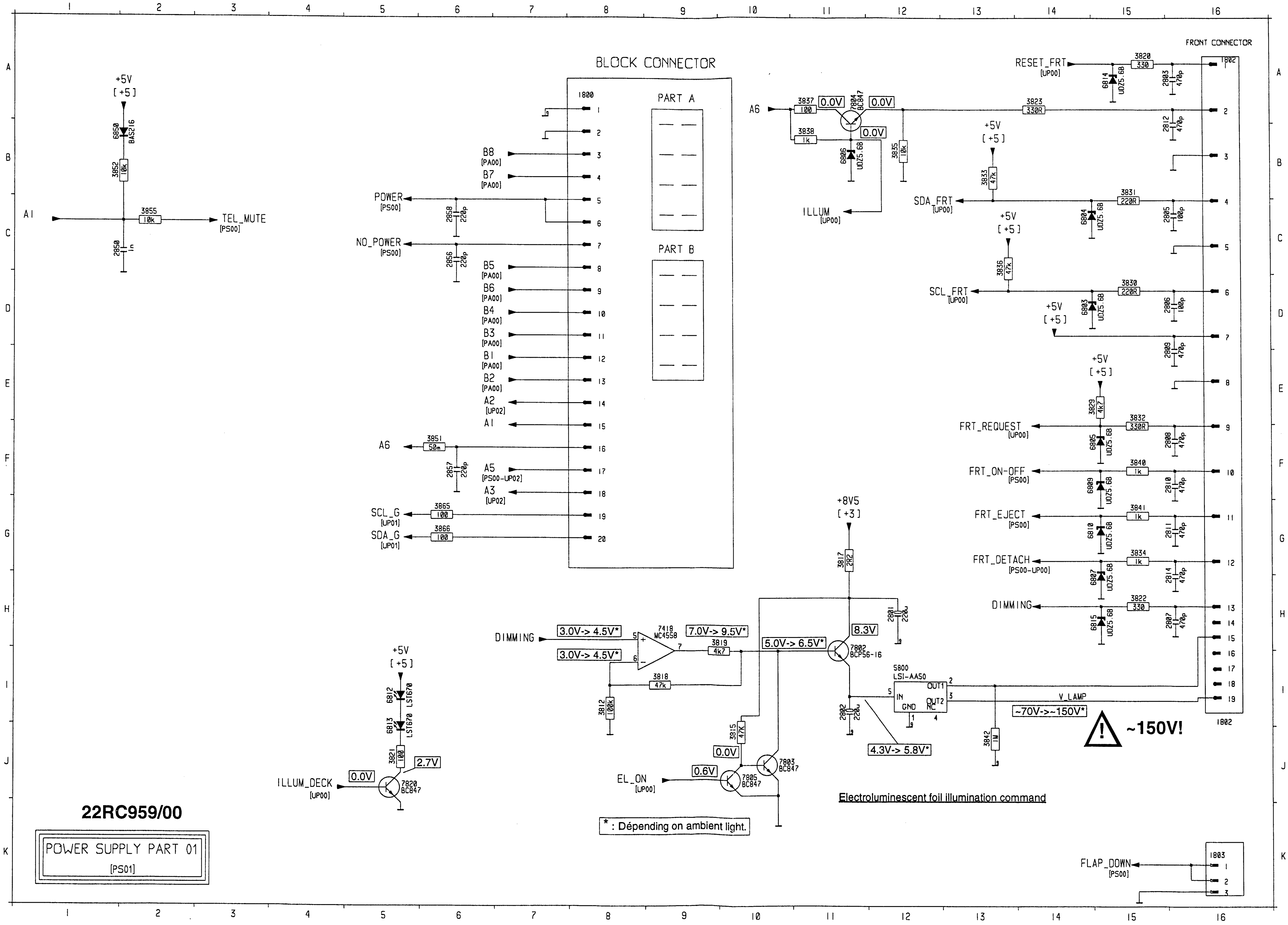
PIN	DESCRIPTION	FUNCTIONAL DESCRIPTION
1 to 8	Input 0 to input 7	All 8 inputs generate resets on pin RESET-PULSE and a low level on pin CHANGE-INFO
9	ON/OFF	Output signal for switched power supply version or A/D supply from uC
10	RESET-IN	Power On or system reset for the IC
11	WATCH-TRIGGER	Input pin for trigger signal form the uC for the hardware watchdog
12	TIMER-START	Trigger input for a 250ms timer (V_LOW timer)
13	TEST-PIN	test pin. This pin must be connected to ground
14	RC-OUT	In/Outputs for the 32.768 KHz RC oscillator
15	RC-IN	
16	X-TAL OUT	In/Outputs for the 32.768 KHz oscillator
17	X-TAL IN	
18	SDA	I2C serial connection to the uC for INPU/clock reading and device control
19	VSS	
20	SCL	I2C serial connection to the uC for INPU/clock reading and device control
21	VDD	
22	LES-OUTPUT	Drives a LED up to 20mA (switch to 5V supply)
23	RESET-PULSE	Reset output (pulse)
24	CHANGE-INFO	A change on any none masked INPUT, a device reset, an alarm or V_LOW timer event, an oscillator fault or a failed I2C read sequence after a change info signal, a failed watchdog trigger sequence, results in a low on this output

Signal	Location
A5	B1
ANTENNA_ON	A1
CHANGE_INFO	H9
DECK_INSERT	I3
FLAP_DOWN	I3
FRT_DETACH	I3
FRT_EJECT	H3
FRT_ON-OFF	I3
NO_POWER	G1
POWER	D16
POWER_MUTE	J16
POWER_SENSE	C16
RESET_IN	F1/K6
RESET_MC0	I12
SCL_EE0	J3
SDA_EE0	J3
SET_ON	A16
TEL_MUTE	I4
V_LOW	E1/H4
V_LOW_TIMER	I9
WATCHDOG	J9


POWER SUPPLY PART 00
[PS00]
22RC959/00
ANTENNA_ON [UP01]
A5 [PS01]
+14V4 +2
+8V5 +3
+5V0 +5
V_LOW [UP00-UP01]
RESET_IN
+5V0 +4
NO_POWER [PS01]
7407
2415 220p
7430 LF85CDT OUT IN
2411 100u
2409 220n
1400 SMPS-5V
CONTR
VO
8.5V
14.2V
5.3V
set Off
12s
14.2V
4.6V
7404 VN06SP STAT VCC IN OUT GND
3430 10R
2402 33n
14.4V
+5V [+4]
3402 47k
SET_ON [UP00-UP01]
6410 BAS216
3404 220k
3405 100k
POWER_SENSE [UP01]
+14V4 [+1]
5400 97u
POWER [PS01]
6401 S3G
2419 4n7
2405 2m2
2406 2m2
7401 L4949EP
SO SI RES VOUT VS Vref VZ CT
4.9V
5.0V
2.2V
13.3V
5.1V
3412 47k
3411 47k
2416 47u
2420 100n
2414
2413
3408 27k
2418 220n
3478 10R
3474 10R
3475 10R
3479 10R
2410
6407 1SR154
3406 150k
6402 1SR154
1402 2A
+14V4 [+CDC]
6406 UDZ20B
7410 BC847B
0.0V
3473 47k
2407 470p
3472 1k
5V 1s
7402 SAA1305T
IN0 IN1 IN2 IN3 IN4 IN5 IN6 IN7 SDA SCL
MASK
NEW-LATCH
OLD-LATCH
COMPARE
RESET-GENERATOR
V-LOW TIMER
SERIAL I/O
CLOCK AND ALARM TIMER
TAKTGEN AND OSCILLATOR
BLINKING LED GEN.
SUPPLY
WATCHDOG
CHINFO RESETP ON/OFF TIMERS TEST TRIG
LEDO RESIN VDD GND XTAI XTAO RCIN RCO
CHANGE_INFO [UP00]
V_LOW_TIMER [UP00]
WATCHDOG [UP00]
RESET_MC0 [UP00]
7409 BC847B
3465 47k
3466 47k
3467 4k7
V_LOW
3476 50m IGNITION
FRT_EJECT [PS01]
FRT_ON-OFF [PS01]
TEL_MUTE [PS01]
FRT_DETACH [PS01-UP00]
DECK_INSERT [UP01-TA00]
FLAP_DOWN [PS01]
SDA_EE0 [UP00]
SCL_EE0
3471 10k
3470 100k
3433 47k
3432 47k
3464 100k
3463 100k
3462 100k
3477 330R
6413 LSA670
RESET_IN
5402 32KHZ768
2424 8p2
2423 8p2
+14V4 [+2]
+8V5 [+3]
3486 27k
3488 10k
3489 330k
7418 MC4558
8.2V
12.7V
0.5V
3485 220k
2425 22n
POWER_MUTE [PA00]

Component	Location
1400	C 7
1402	E15
2402	C12
2405	D15
2406	D15
2407	G10
2409	D 6
2410	G 8
2411	D 4
2413	G 6
2414	G 5
2415	B 1
2416	G 3
2418	G 7
2419	D14
2420	G 5
2423	K 7
2424	K 7
2425	J14
3402	A14
3404	C13
3405	C14
3406	E10
3408	F 7
3411	F 3
3412	F 2
3430	C11
3432	H 4
3433	H 4
3462	J 4
3463	J 4
3464	J 4
3465	I10
3466	I11
3467	H11
3470	I 1
3471	H 1
3472	G11
3473	G11
3474	F 9
3475	F 9
3476	H 2
3477	K 5
3478	F 9
3479	G 9
3485	J13
3486	I13
3488	I14
3489	I14
5400	D16
5402	K 6
6401	D14
6402	E13
6406	G11
6407	F10
6410	B14
6413	K 5
7401	G 6
7402	H 5
7404	B11
7407	B 3
7409	I11
7410	G10
7418	J15
7430	D 5

A1	C1/F7	B2	E7	B8	B7	FRT_ON-OFF	F14	RESET_FRT	A14
A2	E7	B3	D7	DIMMING	H14/H7	FRT_REQUEST	F14	SCL_FRT	D13
A3	F7	B4	D7	EL_ON	J9	ILLUM	C11	SCL_G	G5
A5	F7	B5	C7	FLAP_DOWN	K15	ILLUM_DECK	J5	SDA_FRT	C13
A6	A10/F5	B6	D7	FRT_DETACH	G14	NO_POWER	C5	SDA_G	G5
B1	E7	B7	B7	FRT_EJECT	G14	POWER	C5	TEL_MUTE	C3


BLOCK CONNECTOR
1800
PART A
PART B
FRONT CONNECTOR
1802
1803
+5V
[+5]
6850
BAS216
3852
10k
A1
3855
10k
TEL_MUTE
[PS00]
2850
1n
POWER
[PS00]
NO_POWER
[PS00]
2858
220p
2856
220p
B8
[PA00]
B7
[PA00]
B5
[PA00]
B6
[PA00]
B4
[PA00]
B3
[PA00]
B1
[PA00]
B2
[PA00]
A2
[UP02]
A1
A6
3851
50m
2857
220p
A5
[PS00-UP02]
A3
[UP02]
SCL_G
[UP01]
3865
100
SDA_G
[UP01]
3866
100
A6
3837
100
0.0V
7804
BC847
0.0V
3838
1k
0.0V
6806
UDZ5.6B
3835
10k
ILLUM
[UP00]
RESET_FRT
[UP00]
3820
330
6814
UDZ5.6B
2803
470p
3823
330R
2812
470p
+5V
[+5]
3833
47k
SDA_FRT
[UP00]
3831
220R
6804
UDZ5.6B
2805
100p
3836
47k
SCL_FRT
[UP00]
3830
220R
6803
UDZ5.6B
2806
100p
2809
470p
3829
4k7
FRT_REQUEST
[UP00]
3832
330R
6805
UDZ5.6B
2808
470p
FRT_ON-OFF
[PS00]
3840
1k
6809
UDZ5.6B
2810
470p
FRT_EJECT
[PS00]
3841
1k
6810
UDZ5.6B
2811
470p
FRT_DETACH
[PS00-UP00]
3834
1k
6807
UDZ5.6B
2814
470p
DIMMING
3822
330
6815
UDZ5.6B
2807
470p
+8V5
[+3]
3817
2R2
2801
220u
8.3V
DIMMING
3.0V-> 4.5V*
3.0V-> 4.5V*
7418
MC4558
7.0V-> 9.5V*
3819
4k7
5.0V-> 6.5V*
7802
BCP56-16
3818
47k
3812
100k
5800
LSI-AAS0
IN
GND
OUT1
OUT2
RC
2802
220u
V_LAMP
~70V->~150V*
3842
1M
4.3V-> 5.8V*
3815
47k
0.0V
0.6V
EL_ON
[UP00]
7805
BC847
7803
BC847
+5V
[+5]
6812
LS1670
6813
LS1670
3821
100
2.7V
0.0V
ILLUM_DECK
[UP00]
7820
BC847
~150V!
FLAP_DOWN
[PS00]

Electroluminescent foil illumination command

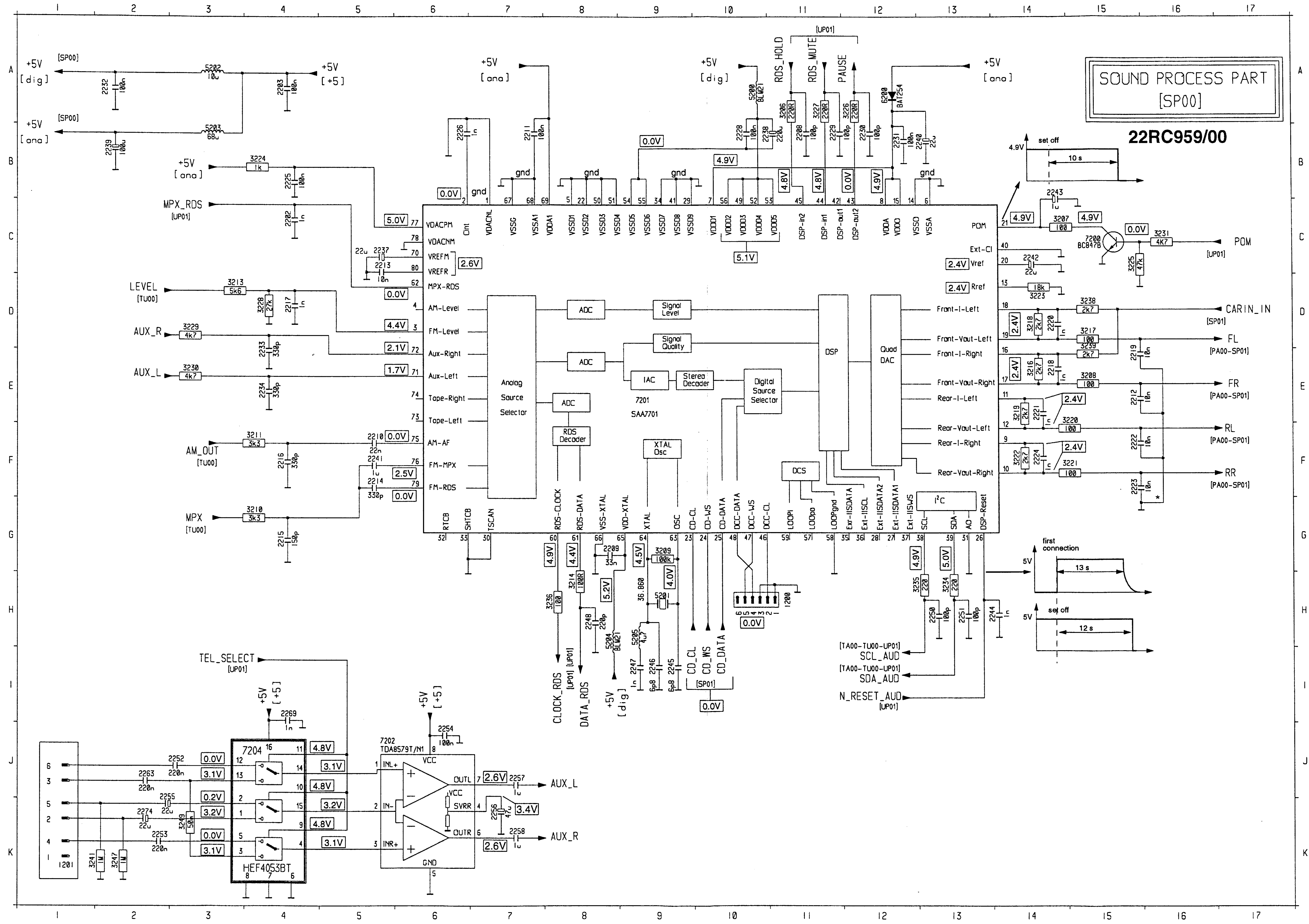
* : Dépending on ambient light.

22RC959/00

POWER SUPPLY PART 01
[PS01]

1800	A 8
1802	A16
1802	I16
1803	K16
2801	H12
2802	I11
2803	A16
2805	C16
2806	D16
2807	H16
2808	F16
2809	E16
2810	F16
2811	G16
2812	B16
2814	H16
2850	C 1
2856	C 6
2857	F 6
2858	C 6
3812	I 8
3815	J10
3817	G11
3818	I 9
3819	H10
3820	A15
3821	J 5
3822	H15
3823	A14
3829	E15
3830	D15
3831	B15
3832	E15
3833	B13
3834	G15
3835	B12
3836	C13
3837	A11
3838	B11
3840	F15
3841	G15
3842	J13
3851	F 6
3852	B 1
3855	C 2
3865	G 6
3866	G 6
5800	I12
6803	D14
6804	C14
6805	F15
6806	B11
6807	H15
6809	F14
6810	G14
6812	I 5
6813	J 5
6814	A15
6815	H15
6850	B 1
7418	H 9
7802	I11
7803	J10
7804	A11
7805	J10
7820	J 5

AM_OUT	F3	CD_WS	H10	MPX	G3	RDS_MUTE	A11
AUX_L	E2/j7	CLOCK_RDS	I8	MPX_RDS	C3	RL	F17
AUX_R	D2/k7	DATA_RDS	I8	N_RESET_AUD	I12	RR	F17
CARIN_IN	D17	FL	D17	PAUSE	A12	SCL_AUD	I12
CD_CL	H9	FR	E17	POM	C17	SDA_AUD	I12
CD_DATA	H10	LEVEL	D2	RDS_HOLD	A11	TEL_SELECT	I4



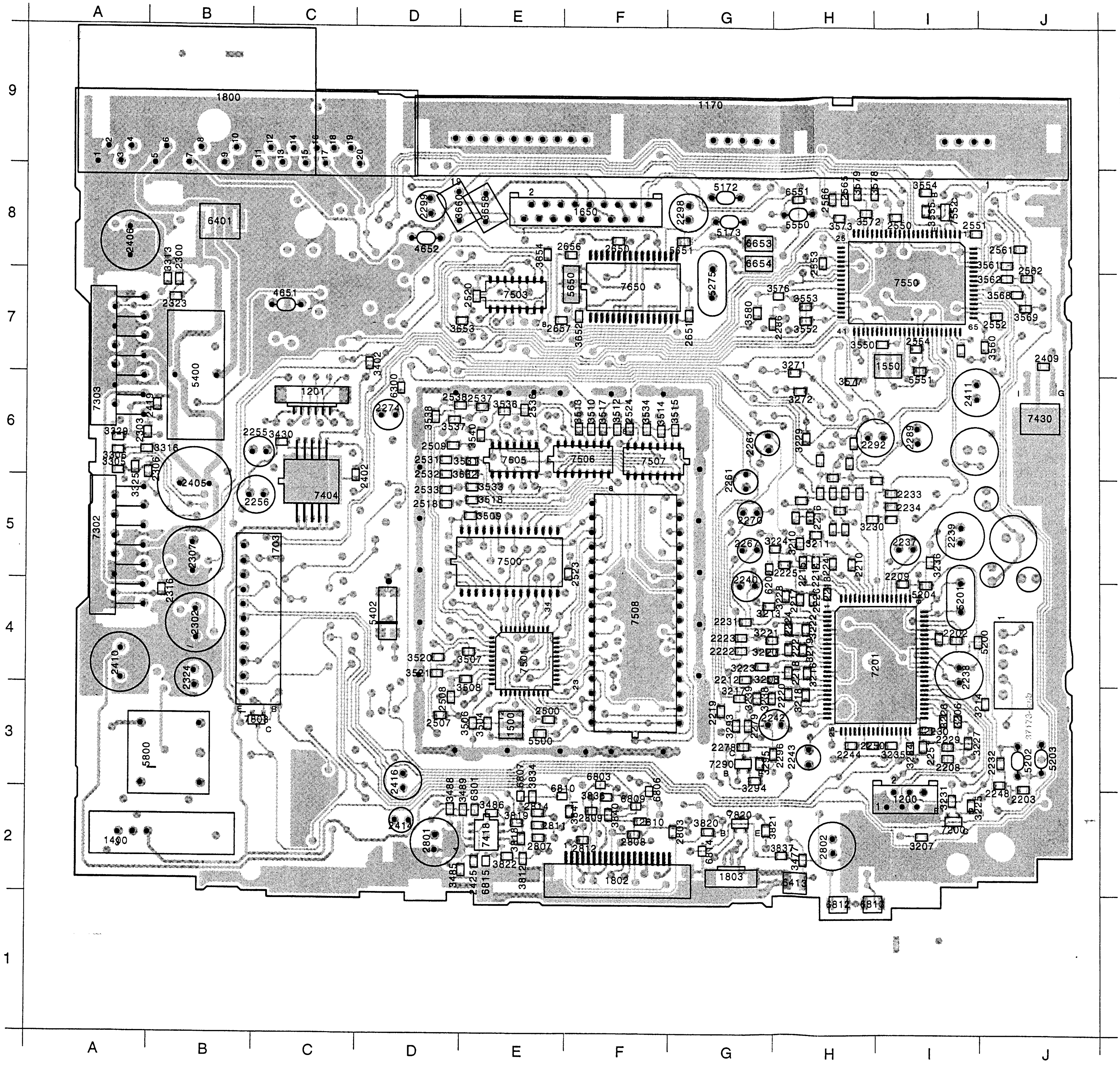
SOUND PROCESS PART
[SP00]

22RC959/00

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
J
K
+5V [dig]
+5V [ana]
+5V [+5]
[SP00]
5202 10u
5203 68u
2232 100n
2203 100n
2239 100u
3224 1k
2225 100n
MPX_RDS [UP01]
2202 1n
LEVEL [TU00]
3213 5k6
3228 27k
2217 1n
AUX_R
3229 4k7
2233 330p
AUX_L
3230 4k7
2234 330p
AM_OUT [TU00]
3211 3k3
2216 330p
MPX [TU00]
3210 3k3
2215 150p
2226 1n
2211 100n
2237 22u
2213 10n
2210 22n
2241 1u
2214 330p
5.0V
2.6V
0.0V
4.4V
2.1V
1.7V
2.5V
gnd
VDACPM
VDACNM
VREFM
VREFR
MPX-RDS
AM-Level
FM-Level
Aux-Right
Aux-Left
Tape-Right
Tape-Left
AM-AF
FM-MPX
FM-RDS
Cml
VDACNL
VSSG
VSSA1
VDDA1
VSSD1
VSSD2
VSSD3
VSSD4
VSSD5
VSSD6
VSSD7
VSSD8
VSSD9
VDDD1
VDDD2
VDDD3
VDDD4
VDDD5
DSP-in2
DSP-in1
DSP-out1
DSP-out2
VDDA
VDDO
VSSO
VSSA
Analog Source Selector
ADC
Signal Level
Signal Quality
RDS Decoder
IAC
Stereo Decoder
Digital Source Selector
XTAL Osc
DSP
Quad DAC
DCS
I²C
7201 SAA7701
POM
Ext-Cl
Vref
Rref
Front-l-Left
Front-Vout-Left
Front-l-Right
Front-Vout-Right
Rear-l-Left
Rear-Vout-Left
Rear-l-Right
Rear-Vout-Right
RTCB
SHTCB
TSCAN
RDS-CLOCK
RDS-DATA
VSS-XTAL
VDD-XTAL
XTAL
OSC
CD-CL
CD-WS
CD-DATA
DCC-DATA
DCC-WS
DCC-CL
LOOPi
LOOPo
LOOPgnd
Ext-IISDATA
Ext-IISCL
Ext-IISDATA2
Ext-IISDATA1
Ext-IISWS
SCL
SDA
AQ
DSP-Reset
5200 BLM21
RDS_HOLD
RDS_MUTE
PAUSE
[UP01]
3206 220R
3227 220R
3226 220R
2228 100n
2238 220u
2208 100p
2229 100p
2230 100p
6200 BAT254
2231 100n
2240 22u
4.8V
4.9V
5.1V
2.4V
2243 1u
3207 100
7200 BC847B
3231 4K7
3225 47k
POM [UP01]
2242 22u
3223 18k
3238 2k7
CARIN_IN [SP01]
3218 2k7
2220 1n
3217 100
3239 2k7
FL [PA00-SP01]
2219 10n
3216 2k7
2218 1n
3208 100
FR [PA00-SP01]
3219 2k7
2221 1n
3220 100
RL [PA00-SP01]
2212 10n
2222 10n
3222 2k7
2224 1n
3221 100
RR [PA00-SP01]
2223 10n
4.9V set off 10 s
5V first connection 13 s
5V set off 12 s
3236 100
3214 100R
2248 220p
5204 BLM21
2209 33n
3209 100k
36.860
5201
5205 4u7
2247 1n
2246 6p8
2245 6p8
4.0V
5.2V
CLOCK_RDS [UP01]
DATA_RDS [UP01]
+5V [dig]
CD_CL
CD_WS
CD_DATA
[SP01]
1200
3235 220
3234 220
2250 100p
2251 100p
2244 1n
[TA00-TU00-UP01] SCL_AUD
[TA00-TU00-UP01] SDA_AUD
N_RESET_AUD [UP01]
TEL_SELECT [UP01]
+5V [+5]
2269 1n
7204
HEF4053BT
2252 220n
2263 220n
2255 22u
2274 22u
2253 220n
3249 50k
3241 1M
3247 1M
1201
0.0V
3.1V
0.2V
3.2V
4.8V
7202 TDA8579T/N1
2254 100n
VCC
INL+
IN-
INR+
OUTL
OUTR
SVRR
GND
2.6V
3.4V
2257 1u
2258 1u
2256 47u
AUX_L
AUX_R

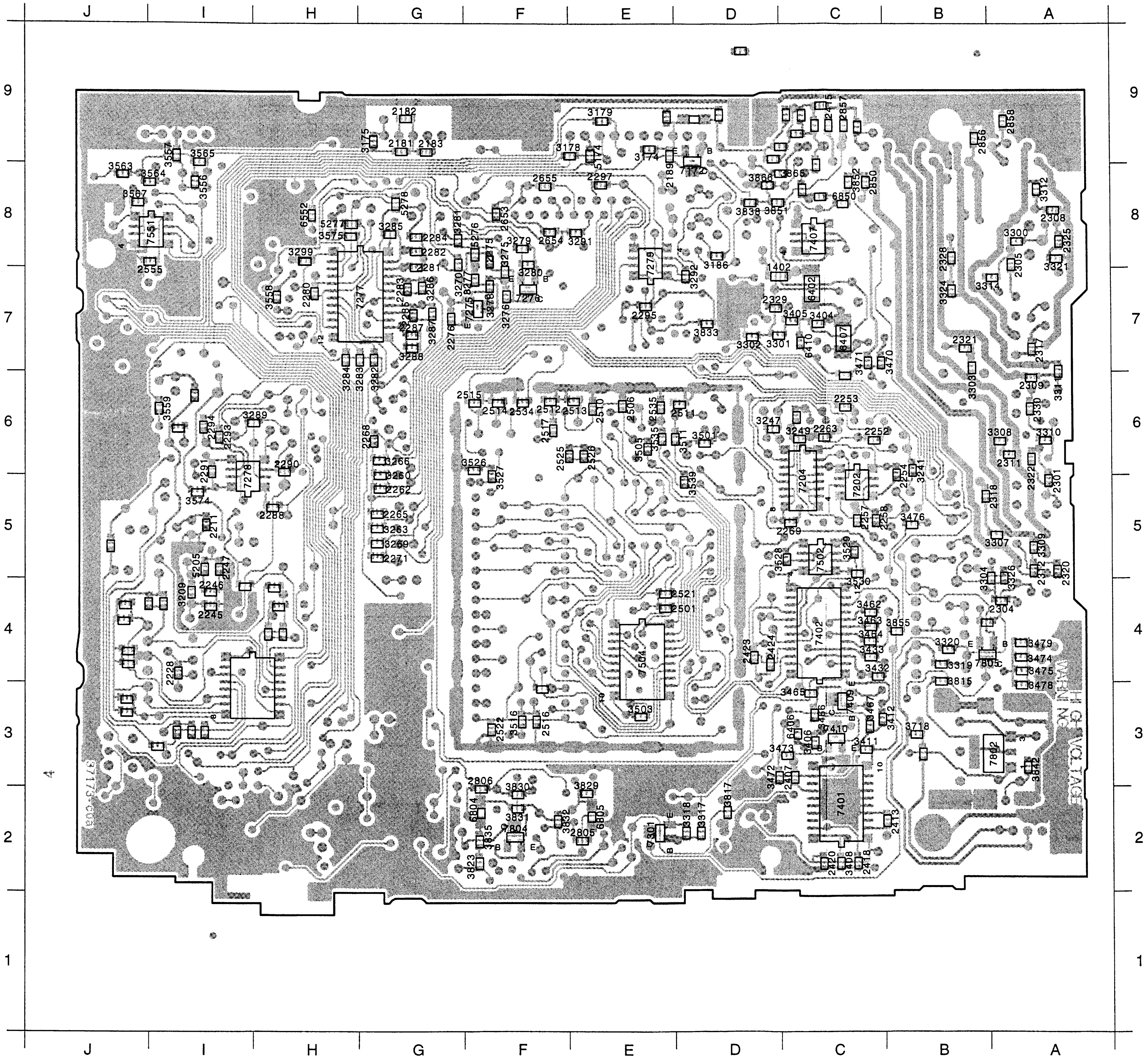
1200	H11
1201	K 1
2202	C 4
2203	A 4
2208	B11
2209	G 8
2210	F 5
2211	B 7
2212	E15
2213	C 5
2214	F 5
2215	G 4
2216	F 4
2217	D 4
2218	E14
2219	E15
2220	D14
2221	E14
2222	F15
2223	F15
2224	F14
2225	B 4
2226	B 6
2228	B10
2229	B11
2230	B12
2231	B12
2232	A 2
2233	E 4
2234	E 4
2237	C 5
2238	B11
2239	B 2
2240	B13
2241	F 5
2242	C14
2243	B14
2244	H14
2245	I 9
2246	I 9
2247	I 9
2248	H 8
2250	H13
2251	H13
2252	J 3
2253	K 3
2254	J 6
2255	K 2
2256	K 6
2257	J 7
2258	K 7
2263	J 2
2269	I 4
2274	K 2
3206	A11
3207	C14
3208	E15
3209	G 9
3210	G 4
3211	F 4
3213	D 3
3214	H 8
3216	E14
3217	D15
3218	D14
3219	E14
3220	E15
3221	F15
3222	F14
3223	D14
3224	B 4
3225	C15
3226	A12
3227	A11
3228	D 4
3229	D 3
3230	E 3
3231	C16
3234	H13
3235	H12
3236	I 8
3238	D15
3239	D15
3241	K 1
3247	K 2
3249	K 3
5200	A10
5201	H 9
5202	A 3
5203	B 3
5204	H 8
5205	H 9
6200	A12
7200	C15
7201	E 9
7202	J 5
7204	J 4

22RC959/00 PWB LAYOUT - TOPSIDE VIEW


A
B
C
D
E
F
G
H
I
J
9
8
7
6
5
4
3
2
1
1800
1170
1650
6401
2406
3313
2300
2323
4651
5400
7303
1201
3402
6300
2274
2255
3430
7404
2402
2256
2405
3316
3306
3305
3325
3329
2303
2419
7302
2307
2316
2302
2410
2324
1703
5402
1803
5800
1400
2416
2414
2801
7418
1500
5500
2500
7500
7501
7505
7506
7507
7508
7503
7650
5650
2520
3553
2657
3652
2651
5275
5172
5173
6653
6654
6551
5550
7550
1550
2411
7430
2409
2292
2289
2264
2261
2270
2267
2240
2237
2239
2233
2234
7201
2201
5201
5200
2202
2203
5202
5203
1200
7200
3207
2802
6812
6813
1802
2296
2242
2243
7290
3294
2219
2298
2299
4652
3658
3660
3654
2656
2553
2565
2566
3554
2550
2551
2561
2562
3561
3562
3568
3569
2552
3560
3576
3580
3552
3550
2554
3271
3272
3547
5551
6803
6810
6809
6806
2810
2808
2809
2811
2807
2812
2814
3820
7820
6814
3837
3477
6815
3485
2425
3812
3822
3818
3819
3834
3488
3489
3486
6301
2418
2507
2508
3506
3520
3521
3507
3508
2509
2531
2532
2533
2518
3509
3518
3533
3532
3537
3538
3540
2538
2537
2536
3510
3512
3513
3514
3515
3517
2523
2524
3534
2244
2250
3235
2208
2232
2248
3229
2231
2223
2222
2278
3230
2209
3236

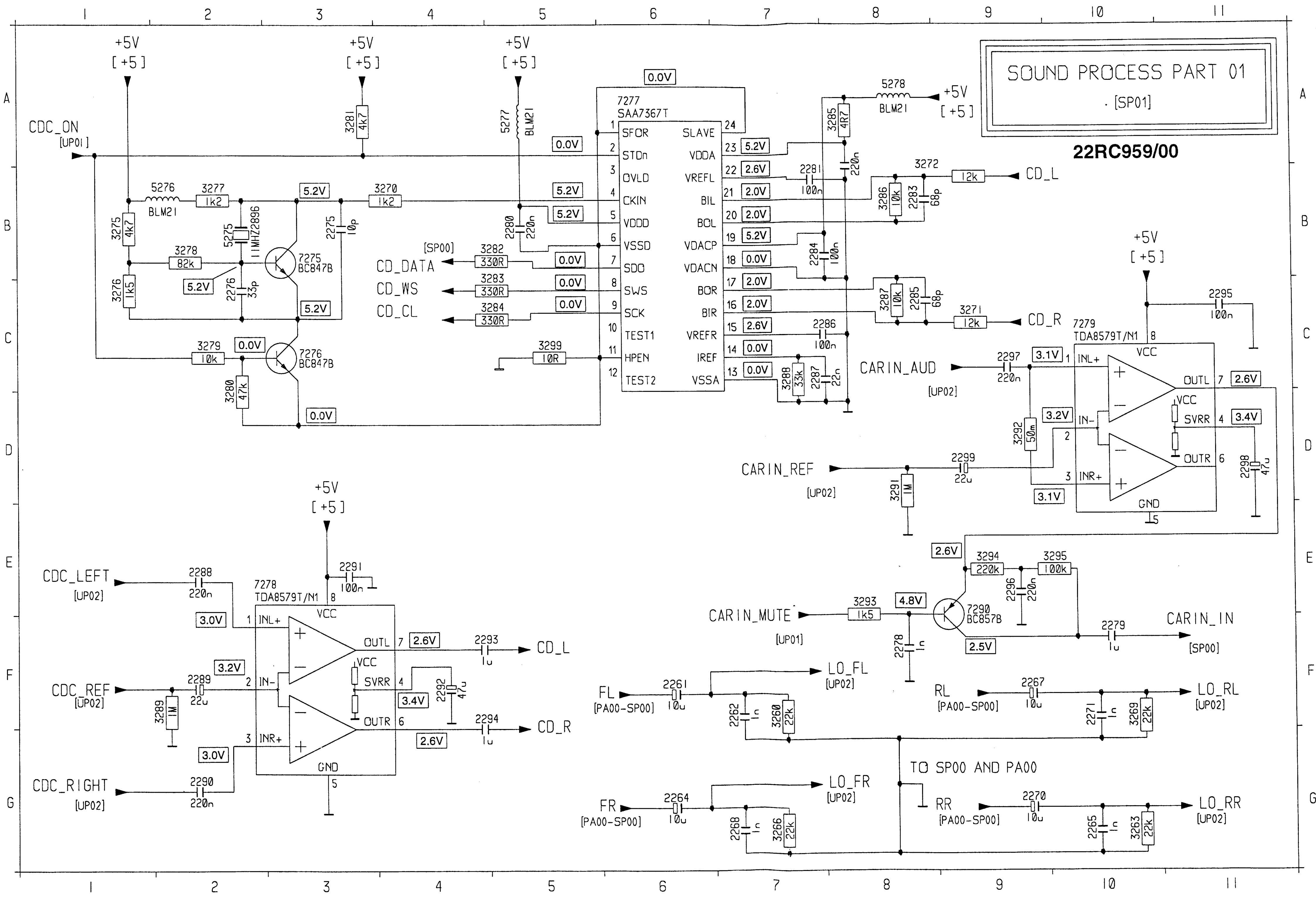
1170	G	8
1200	I	2
1201	C	6
1400	B	1
1500	E	2
1550	I	6
1650	F	7
1703	B	3
1800	B	8
1802	F	1
1803	G	1
2202	I	3
2203	J	2
2208	I	2
2209	I	4
2210	H	4
2212	G	3
2213	H	4
2214	H	4
2215	H	4
2216	H	4
2217	H	4
2218	H	3
2219	G	3
2220	H	3
2221	H	3
2222	G	3
2223	G	3
2224	H	3
2225	H	4
2226	H	4
2229	I	2
2230	I	2
2231	G	3
2232	J	2
2233	I	5
2234	I	5
2237	I	4
2238	I	3
2239	I	4
2240	G	4
2241	H	4
2242	H	2
2243	H	2
2244	H	2
2248	J	2
2250	H	2
2251	I	2
2255	C	5
2256	C	5
2261	G	5
2264	G	5
2267	G	4
2270	G	4
2274	D	5
2278	G	2
2279	G	2
2286	G	6
2289	I	5
2292	H	5
2296	G	2
2298	G	7
2299	D	7
2300	B	7
2302	B	3
2303	A	5
2306	A	5
2307	B	4
2316	B	4
2323	B	7
2324	B	3
2402	C	5
2405	B	5
2406	A	7
2409	J	6
2410	A	3
2411	I	6
2414	D	2
2416	D	2
2419	B	6
2425	E	1
2500	E	2
2507	D	3
2508	D	3
2509	D	5
2518	D	5
2520	E	7
2523	F	4
2524	F	5
2531	D	5
2532	D	5
2533	D	5
2536	E	5
2537	E	6
2538	D	6
2550	I	7
2551	I	7
2552	J	6
2553	H	7
2554	I	6
2561	J	7
2562	J	7
2565	H	8
2566	H	8
2650	F	7
2651	G	6
2656	F	7
2657	E	6
2801	D	1
2802	H	1
2803	G	1
2807	E	1
2808	F	1
2809	F	2
2810	F	2
2811	E	1
2812	F	1
2814	E	2
3206	I	2
3207	I	1
3208	G	3
3210	H	4
3211	H	4
3213	G	4
3214	J	3
3216	H	3
3217	G	3
3218	H	3
3219	H	3
3220	G	3
3221	G	3
3222	H	3
3223	G	3
3224	H	4
3225	I	2
3226	I	2
3227	I	2
3228	H	4
3229	H	5
3230	H	4
3231	I	2
3234	I	2
3235	I	2
3236	I	4
3238	G	3
3239	G	3
3271	H	6
3272	H	6
3293	G	2
3294	G	2
3295	G	2
3305	A	5
3306	A	5
3313	B	7
3316	A	5
3325	A	5
3329	A	5
3402	D	6
3430	C	5
3477	H	1
3485	E	1
3486	E	2
3488	D	2
3489	E	2
3504	E	2
3506	E	2
3507	E	3
3508	E	3
3509	E	4
3510	F	5
3512	F	5
3513	F	5
3514	F	5
3515	G	5
3517	F	5
3518	E	5
3520	D	3
3521	D	3
3531	E	5
3532	E	5
3533	E	5
3534	F	5
3536	E	5
3537	D	5
3538	D	5
3540	E	5
3550	I	6
3552	H	6
3553	H	6
3554	I	8
3555	I	7
3560	J	6
3561	J	7
3562	J	7
3568	J	7
3569	J	6
3572	H	7
3573	H	7
3576	H	7
3577	H	6
3578	H	8
3579	H	8
3580	G	6
3652	F	6
3653	E	6
3654	E	7
3658	E	7
3660	D	7
3812	E	1
3818	E	1
3819	E	2
3820	G	1
3821	G	1
3822	E	1
3834	E	2
3836	F	2
3837	H	1
3840	F	2
3841	F	2
4651	C	6
4652	D	7
5172	G	8
5173	G	7
5200	I	3
5201	I	4
5202	J	2
5203	J	2
5204	I	4
5275	G	7
5400	B	6
5402	D	4
5500	E	2
5550	H	7
5551	I	6
5650	F	7
5651	G	7
5800	B	2
6200	G	4
6300	D	6
6301	E	2
6401	B	7
6413	H	1
6551	H	8
6653	G	7
6654	G	7
6803	F	2
6806	F	2
6807	E	2
6809	F	2
6810	E	2
6812	H	1
6813	H	1
6814	G	1
6815	E	1
7200	I	2
7201	H	3
7290	G	2
7302	A	4
7303	A	6
7404	C	5
7418	E	1
7430	J	5
7500	E	4
7501	E	3
7503	E	7
7505	E	5
7506	F	5
7507	F	5
7508	F	4
7550	I	7
7552	I	7
7650	F	7
7803	C	2
7820	G	2

22RC959/00 PWB LAYOUT - BOTTOMSIDE VIEW



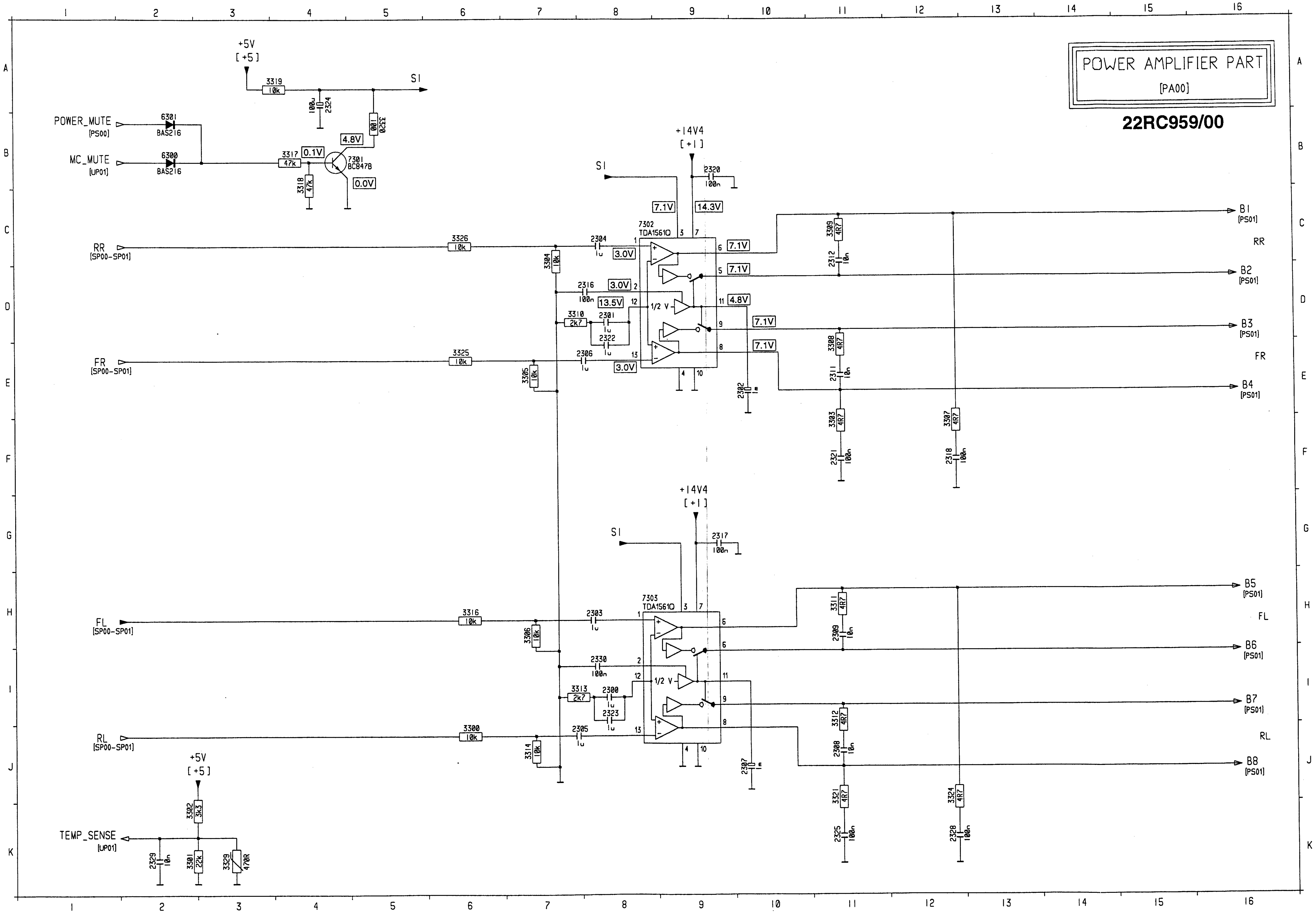
1402	D	7
2181	G	8
2182	G	8
2183	G	8
2189	E	8
2211	I	4
2228	I	3
2245	I	4
2246	I	4
2247	I	4
2252	C	5
2253	C	5
2254	C	5
2257	C	4
2258	C	4
2262	H	5
2263	C	5
2265	H	4
2268	H	5
2269	D	4
2271	H	4
2275	F	7
2276	G	6
2280	H	7
2281	G	7
2282	G	7
2283	G	7
2284	G	7
2285	G	6
2287	G	6
2288	I	5
2290	H	5
2291	I	5
2293	I	5
2294	I	5
2295	E	6
2297	E	8
2301	A	5
2304	B	4
2305	A	7
2308	A	7
2309	A	6
2311	B	5
2312	A	4
2317	A	6
2318	B	5
2320	A	4
2321	B	6
2322	A	5
2325	A	7
2328	B	7
2329	D	6
2330	A	5
2407	D	2
2413	C	1
2415	C	8
2418	C	1
2420	C	1
2423	D	3
2424	D	3
2501	E	4
2506	E	5
2510	E	5
2511	E	6
2512	F	6
2513	F	6
2514	F	6
2515	G	6
2516	F	2
2517	F	5
2521	E	4
2522	F	2
2525	F	5
2526	F	5
2534	F	6
2535	E	5
2555	J	7
2653	F	7
2654	F	7
2655	F	8
2805	F	1
2806	G	2
2850	C	8
2856	B	8
2857	C	8
2858	B	8
3174	E	8
3175	H	8
3178	F	8
3179	E	8
3186	D	7
3209	I	4
3241	B	5
3247	D	5
3249	D	5
3260	H	5
3263	H	4
3266	H	5
3269	H	4
3270	G	7
3275	F	7
3276	F	7
3277	G	7
3278	F	7
3279	F	7
3280	F	7
3281	G	7
3282	H	6
3283	H	6
3284	H	6
3285	G	7
3286	G	7
3287	G	6
3288	G	6
3289	I	5
3291	F	7
3292	E	7
3299	H	7
3300	A	7
3301	D	6
3302	D	6
3303	B	6
3304	B	4
3307	B	4
3308	B	5
3309	A	4
3310	A	5
3311	A	6
3312	A	8
3314	B	7
3317	D	1
3318	E	1
3319	B	3
3320	B	3
3321	A	7
3324	B	7
3326	B	4
3404	C	6
3405	D	6
3406	C	2
3408	C	1
3411	C	2
3412	C	2
3432	C	3
3433	C	3
3462	C	3
3463	C	3
3464	C	3
3465	C	3
3466	C	3
3467	C	2
3470	C	6
3471	C	6
3472	D	2
3473	D	2
3474	A	3
3475	A	3
3476	B	4
3478	A	3
3479	A	3
3501	D	5
3503	E	2
3505	E	5
3511	E	5
3516	F	2
3526	G	5
3527	F	5
3528	D	4
3529	C	4
3530	C	4
3535	E	5
3539	E	5
3556	I	8
3557	I	8
3558	H	7
3559	J	5
3563	J	8
3564	J	8
3565	I	8
3567	J	7
3574	I	5
3575	H	7
3718	B	2
3815	B	3
3817	D	2
3823	G	1
3829	F	2
3830	F	2
3831	F	2
3832	F	1
3833	D	6
3835	G	1
3838	D	7
3842	A	2
3851	D	7
3852	C	8
3855	C	3
3865	D	8
3866	D	8
4999	D	9
5174	F	8
5205	I	4
5276	G	7
5277	H	7
5278	G	7
6402	C	7
6406	D	2
6407	C	6
6410	D	6
6552	H	7
6804	G	2
6805	F	2
6850	C	7
7172	E	8
7202	C	5
7204	D	5
7275	G	6
7276	F	7
7277	H	7
7278	I	5
7279	E	7
7301	E	1
7401	C	2
7402	C	3
7407	C	7
7409	C	3
7410	C	2
7502	C	4
7504	E	3
7551	J	7
7802	B	2
7804	F	1
7805	B	3

CARIN_AUD	C9	CDC_REF	F1	CD_WS	C4	LO_RR	G11
CARIN_IN	F11	CDC_RIGHT	G1	FL	F6	RL	F9
CARIN_MUTE	F7	CD_CL	C4	FR	G6	RR	G9
CARIN_REF	D8	CD_DATA	B4	LO_FL	F7		
CDC_LEFT	E1	CD_L	B9/F5	LO_FR	G7		
CDC_ON	A1	CD_R	C9/F5	LO_RL	F11		


SOUND PROCESS PART 01
[SP01]
22RC959/00
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
+5V
[+5]
CDC_ON
[UP01]
5276
BLM21
3277
1k2
3270
1k2
3275
4k7
3276
1k5
3278
82k
5275
11MHZ2896
2276
33p
2275
10p
7275
BC847B
7276
BC847B
3279
10k
3280
47k
3281
4k7
5277
BLM21
2280
220n
[SP00]
3282
330R
3283
330R
3284
330R
CD_DATA
CD_WS
CD_CL
3299
10R
7277
SAA7367T
SFOR
STDn
OVLD
CKIN
VDDD
VSSD
SDO
SWS
SCK
TEST1
HPEN
TEST2
SLAVE
VDDA
VREFL
BIL
BOL
VDACP
VDACN
BOR
BIR
VREFR
IREF
VSSA
0.0V
5.2V
2.6V
2.0V
3285
4R7
5278
BLM21
2281
100n
2220n
3272
12k
3286
10k
2283
68p
CD_L
2284
100n
3287
10k
2285
68p
3271
12k
CD_R
2286
100n
3288
33k
2287
22n
CARIN_AUD
[UP02]
2297
220n
3.1V
3.2V
3292
50n
7279
TDA8579T/N1
INL+
IN-
INR+
VCC
OUTL
SVRR
OUTR
GND
3.4V
2295
100n
2298
47u
CARIN_REF
[UP02]
2299
22u
3291
1M
2.6V
3294
220k
3295
100k
2296
220n
CARIN_MUTE
[UP01]
3293
1k5
4.8V
7290
BC857B
2278
1n
2.5V
2279
1u
CARIN_IN
[SP00]
CDC_LEFT
[UP02]
2288
220n
7278
TDA8579T/N1
2291
100n
3.0V
2293
1u
2292
47u
2294
1u
CDC_REF
[UP02]
2289
22u
3289
1M
CDC_RIGHT
[UP02]
2290
220n
FL
[PA00-SP00]
2261
10u
2262
1n
3260
22k
LO_FL
[UP02]
RL
[PA00-SP00]
2267
10u
2271
1n
3269
22k
LO_RL
[UP02]
TO SP00 AND PA00
FR
[PA00-SP00]
2264
10u
2268
1n
3266
22k
LO_FR
[UP02]
RR
[PA00-SP00]
2270
10u
2265
1n
3263
22k
LO_RR
[UP02]

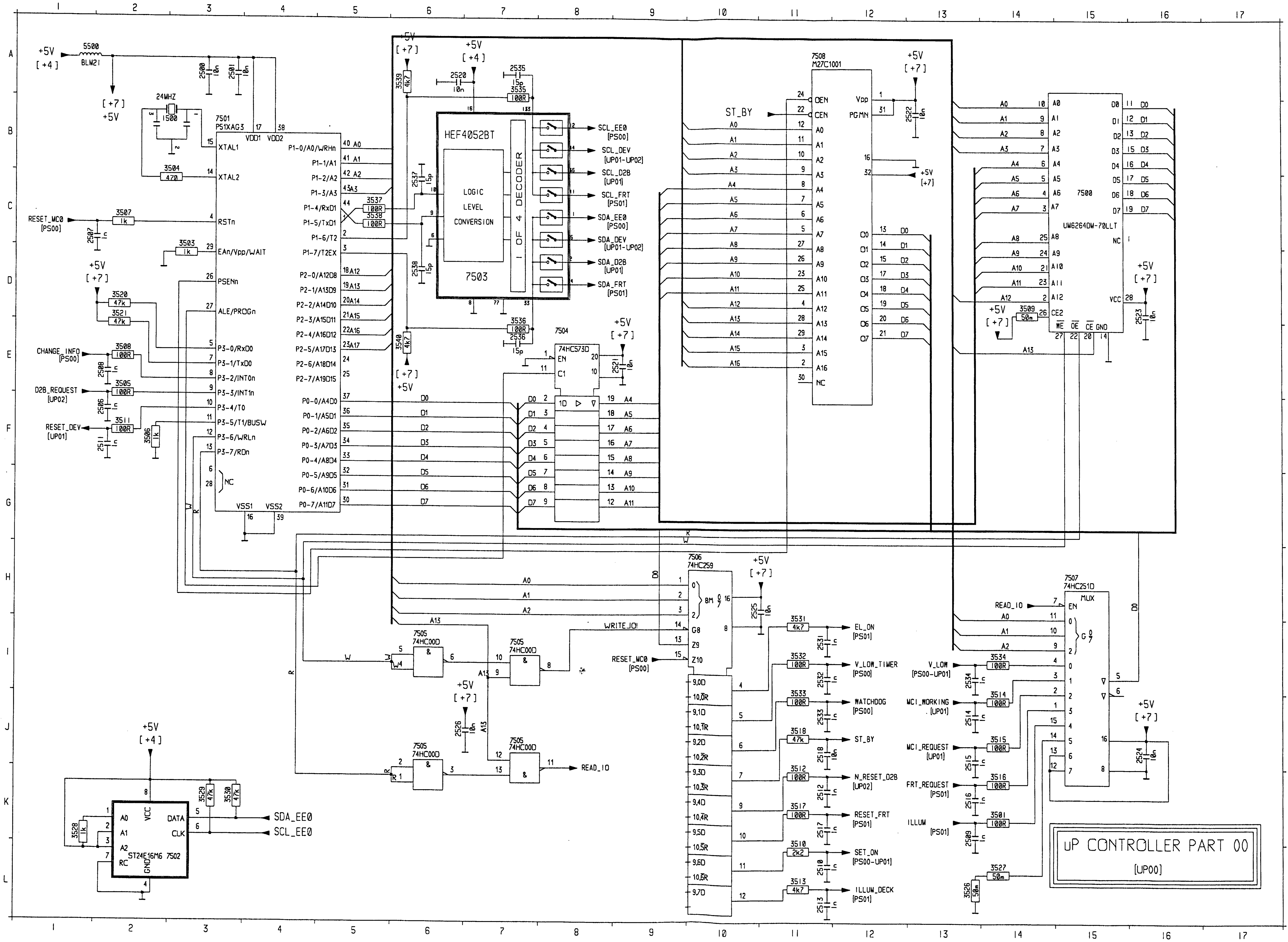
2261	F 6	3277	B 2
2262	F 7	3278	B 2
2264	G 6	3279	C 2
2265	G10	3280	C 2
2267	F 9	3281	A 3
2268	G 7	3282	B 5
2270	G 9	3283	C 5
2271	F10	3284	C 5
2275	B 3	3285	A 7
2276	C 2	3286	B 8
2278	F 8	3287	C 8
2279	F10	3288	C 7
2280	B 5	3289	F 2
2281	B 7	3291	D 8
2283	B 8	3292	D 9
2284	B 7	3293	E 8
2285	C 8	3294	E 9
2286	C 7	3295	E10
2287	C 7	3299	C 5
2288	E 2	5275	B 2
2289	F 2	5276	B 2
2290	G 2	5277	A 5
2291	E 3	5278	A 8
2292	F 4	7275	B 3
2293	F 4	7276	C 3
2294	F 4	7277	A 6
2295	C11	7278	E 2
2296	E 9	7279	C10
2297	C 9	7290	E 9
2298	D11		
2299	D 9		
3260	F 7		
3263	G10		
3266	G 7		
3269	F10		
3270	B 4		
3271	C 8		
3272	B 8		
3275	B 1		
3276	C 1		

B1	C16	B7	I16	RL	J1
B2	D16	B8	J16	RR	C1
B3	D16	FL	H1	SI	A5/B8/G8
B4	E16	FR	E1	TEMP_SENSE	K1
B5	H16	MC_MUTE	B1		
B6	I16	POWER_MUTE	B1		


POWER AMPLIFIER PART
[PA00]
22RC959/00
+5V [+5]
SI
POWER_MUTE [PS00]
MC_MUTE [UP01]
6301 BAS216
6300 BAS216
3319 10k
2324 100u
3320 100
3317 47k
3318 47k
7301 BC847B
0.1V
4.8V
0.0V
+14V4 [+1]
2320 100n
2317 100n
7302 TDA1561Q
7303 TDA1561Q
RR [SP00-SP01]
FR [SP00-SP01]
FL [SP00-SP01]
RL [SP00-SP01]
3326 10k
3325 10k
3316 10k
3300 10k
3304 10k
3305 10k
3306 10k
3314 10k
2304 1u
2306 1u
2303 1u
2305 1u
2316 100n
2330 100n
3310 2k7
3313 2k7
2301 1u
2322 1u
2300 1u
2323 1u
1/2 V
7.1V
14.3V
3.0V
13.5V
4.8V
2302
2307
3309 4R7
3308 4R7
3303 4R7
3307 4R7
3311 4R7
3312 4R7
3321 4R7
3324 4R7
2312 10n
2311 10n
2309 10n
2308 10n
2321 100n
2318 100n
2325 100n
2328 100n
B1 [PS01]
B2 [PS01]
B3 [PS01]
B4 [PS01]
B5 [PS01]
B6 [PS01]
B7 [PS01]
B8 [PS01]
RR
FR
FL
RL
TEMP_SENSE [UP01]
3302 3k3
3301 22k
3329 470R
2329 10n
A B C D E F G H I J K
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

2300	I 8
2301	D 8
2302	E10
2303	H 8
2304	C 8
2305	J 7
2306	E 8
2307	J10
2308	J11
2309	H11
2311	E11
2312	C11
2316	D 8
2317	G 9
2318	F12
2320	B 9
2321	F11
2322	D 8
2323	I 8
2324	A 4
2325	K11
2328	K12
2329	K 2
2330	I 8
3300	J 6
3301	K 2
3302	K 2
3303	F11
3304	C 7
3305	E 7
3306	H 7
3307	F12
3308	E11
3309	C11
3310	D 7
3311	H11
3312	I11
3313	I 7
3314	J 7
3316	H 6
3317	B 4
3318	B 4
3319	A 4
3320	B 5
3321	J11
3324	J12
3325	E 6
3326	C 6
3329	K 3
6300	B 2
6301	B 2
7301	B 5
7302	C 8
7303	H 8

CHANGE_INFO	E1
D2B_REQUEST	E1
EL_ON	I12
FRT_REQUEST	K13
ILLUM	K13
ILLUM_DECK	L12
MCI_REQUEST	J13
MCI_WORKING	J13
N_RESET_D2B	K12
READ_IO	H14/J8
RESET_DEV	F1
RESET_FRT	K12
RESET_MC0	C1/I9
SCL_D2B	B9
SCL_DEV	B9
SCL_EE0	B9/K4
SCL_FRT	C9
SDA_D2B	D9
SDA_DEV	C9
SDA_EE0	C9/K4
SDA_FRT	D9
SET_ON	L12
ST_BY	B11/J12
V_LOW	I13
V_LOW_TIMER	I12
WATCHDOG	J12


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
J
K
L
+5V
[+4]
5500
BLM21
[+7]
+5V
2500
10n
2501
10n
24MHZ
1500
3504
470
7501
P51XAG3
XTAL1
XTAL2
RSTn
EAn/Vpp/WAIT
PSENn
ALE/PROGn
P3-0/RxD0
P3-1/TxD0
P3-2/INT0n
P3-3/INT1n
P3-4/T0
P3-5/T1/BUSW
P3-6/WRLn
P3-7/RDn
VDD1
VDD2
VSS1
VSS2
P1-0/A0/WRHn
P1-1/A1
P1-2/A2
P1-3/A3
P1-4/RxD1
P1-5/TxD1
P1-6/T2
P1-7/T2EX
P2-0/A12D8
P2-1/A13D9
P2-2/A14D10
P2-3/A15D11
P2-4/A16D12
P2-5/A17D13
P2-6/A18D14
P2-7/A19D15
P0-0/A4D0
P0-1/A5D1
P0-2/A6D2
P0-3/A7D3
P0-4/A8D4
P0-5/A9D5
P0-6/A10D6
P0-7/A11D7
NC
RESET_MC0
[PS00]
3507
1k
2507
3503
1k
3520
47k
3521
47k
CHANGE_INFO
[PS00]
3508
100R
2508
D2B_REQUEST
[UP02]
3505
100R
2506
RESET_DEV
[UP01]
3511
100R
3506
1k
2511
W
R
3539
4k7
2520
10n
2535
15p
3535
100R
HEF4052BT
LOGIC
LEVEL
CONVERSION
1 OF 4 DECODER
7503
2537
15p
3537
100R
3538
100R
2538
15p
3536
100R
2536
15p
3540
4k7
SCL_EE0
[PS00]
SCL_DEV
[UP01-UP02]
SCL_D2B
[UP01]
SCL_FRT
[PS01]
SDA_EE0
[PS00]
SDA_DEV
[UP01-UP02]
SDA_D2B
[UP01]
SDA_FRT
[PS01]
7504
74HC573D
EN
C1
1D
2521
10n
D0
D1
D2
D3
D4
D5
D6
D7
A4
A5
A6
A7
A8
A9
A10
A11
ST_BY
7508
M27C1001
OEN
CEN
Vpp
PGMN
2522
10n
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
NC
O0
O1
O2
O3
O4
O5
O6
O7
7500
UM6264DM-70LLT
CE2
WE
OE
CE
GND
VCC
3509
50m
2523
10n
7506
74HC259
8M
G8
Z9
Z10
9,0D
10,0R
9,1D
10,1R
9,2D
10,2R
9,3D
10,3R
9,4D
10,4R
9,5D
10,5R
9,6D
10,6R
9,7D
2525
10n
WRITE_IO
3531
4k7
EL_ON
[PS01]
2531
1n
3532
100R
V_LOW_TIMER
[PS00]
2532
1n
3533
100R
WATCHDOG
[PS00]
2533
1n
3518
47k
ST_BY
2518
10n
3512
100R
N_RESET_D2B
[UP02]
2512
1n
3517
100R
RESET_FRT
[PS01]
2517
1n
3510
2k2
SET_ON
[PS00-UP01]
2510
1n
3513
4k7
ILLUM_DECK
[PS01]
2513
1n
7505
74HC00D
A13
2526
10n
READ_IO
7507
74HC251D
MUX
READ_IO
EN
G 0/7
V_LOW
[PS00-UP01]
3534
100R
2534
1n
MCI_WORKING
[UP01]
3514
100R
2514
1n
MCI_REQUEST
[UP01]
3515
100R
2515
1n
FRT_REQUEST
[PS01]
3516
100R
2516
1n
ILLUM
[PS01]
3501
100R
2509
1n
3527
50m
3526
50m
2524
10n
3529
47k
3530
47k
3528
1k
A0
A1
A2
VCC
DATA
CLK
RC
GND
ST24E16M6
7502
SDA_EE0
SCL_EE0

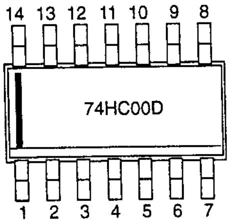
uP CONTROLLER PART 00

[UP00]

A	1500	B 2		7504	E 8
	2500	A 3		7505	J 6
	2501	A 3		7505	I 6
	2506	F 2		7505	I 7
	2507	C 1		7505	J 7
	2508	E 2		7506	H10
	2509	K13		7507	H15
	2510	L11		7508	A11
	2511	F 2			
B	2512	K11			
	2513	L11			
	2514	J13			
	2515	J13			
	2516	K13			
	2517	K11			
C	2518	J11			
	2520	A 6			
	2521	E 9			
	2522	B13			
	2523	D16			
	2524	J16			
D	2525	H10			
	2526	J 6			
	2531	I11			
	2532	I11			
	2533	J11			
	2534	I13			
E	2535	A 7			
	2536	E 7			
	2537	C 6			
	2538	D 6			
	3501	K14			
	3503	D 3			
F	3504	B 3			
	3505	E 2			
	3506	F 2			
	3507	C 2			
	3508	E 2			
	3509	D14			
G	3510	L11			
	3511	F 2			
	3512	K11			
	3513	L11			
	3514	J14			
	3515	J14			
H	3516	K14			
	3517	K11			
	3518	J11			
	3520	D 2			
	3521	D 2			
	3526	L13			
I	3527	L14			
	3528	K 1			
	3529	K 3			
	3530	K 3			
	3531	I11			
	3532	I11			
J	3533	J11			
	3534	I14			
	3535	A 7			
	3536	E 7			
	3537	C 5			
	3538	C 5			
K	3539	A 6			
	3540	E 6			
	5500	A 1			
	7500	C15			
	7501	B 3			
	7502	L 3			
	7503	D 7			
L					

74HC00D Quad 2-input nand gate

SYMBOL	PIN	DESCRIPTION
1A to 4A	1, 4, 9, 12	data inputs
1B to 4B	2, 5, 10, 13	data inputs
1Y to 4Y	3, 6, 8, 11	data outputs
GND	7	Ground (0V)
VCC	14	positive supply voltage

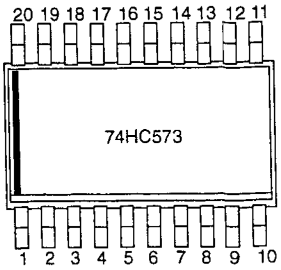


FUNCTION TABLE

INPUTS		OUTPUT
nA	nB	nY
L	L	H
L	H	H
H	L	H
H	H	L

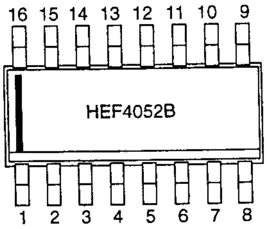
74HC573D Octal D-type transparent latch; 3-state

SYMBOL	PIN	DESCRIPTION
$\overline{OE}$	1	3-state output enable input (active LOW)
D_0 to D_7	2 to 9	data inputs
GND	10	Ground (0V)
LE	11	latch enable input (active HIGH)
Q_7 to Q_0	12 to 19	3-state latch outputs
V_{CC}	20	positive supply voltage



HEF4052B Dual 4 channel analogue multi/demultiplexer

SYMBOL	PIN	DESCRIPTION
Y_{0A} to Y_{3A}	12, 14, 15, 11	independent inputs/outputs
Y_{0B} to Y_{3B}	1, 2, 5, 4	independent inputs/outputs
A_0, A_1	10, 9	address inputs
$\overline{E}$	6	enable input (active LOW)
Z_A, Z_B	13, 3	common inputs/outputs
V_{SS}	8	Ground (0V)
V_{DD}	16	positive supply voltage

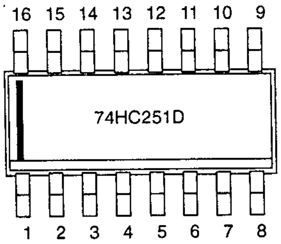


FUNCTION TABLE

INPUTS			channel ON
$\overline{E}$	A_1	A_0	
L	L	L	Y_{0A}-Z_A; Y_{0B}-Z_B
L	L	H	Y_{1A}-Z_A; Y_{1B}-Z_B
L	H	L	Y_{2A}-Z_A; Y_{2B}-Z_B
L	H	H	Y_{3A}-Z_A; Y_{3B}-Z_B
H	X	X	none

74HC251D 8-input multiplexer; 3-state

SYMBOL	PIN	DESCRIPTION
I_0 to I_7	4,3,2,1,15,14,13 ,12	Multiplexer inputs
Y	5	Multiplexer output
$\overline{Y}$	6	Complementary multiplexer output
$\overline{OE}$	7	3-state output enable input (active LOW)
GND	8	Ground
S_0, S_1, S_2	11, 10, 9	select inputs
V_{CC}	16	Positive supply voltage



FUNCTION TABLE

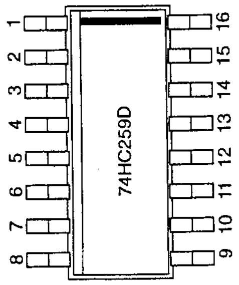
INPUTS												OUTPUTS	
$\overline{OE}$	S_2	S_1	S_0	I_0	I_1	I_2	I_3	I_4	I_5	I_6	I_7	$\overline{Y}$	Y
H	X	X	X	X	X	X	X	X	X	X	X	Z	Z
L	L	L	L	L	X	X	X	X	X	X	X	H	L
L	L	L	L	H	X	X	X	X	X	X	X	L	H
L	L	L	H	X	L	X	X	X	X	X	X	H	L
L	L	L	H	X	H	X	X	X	X	X	X	L	H
L	L	H	L	X	X	L	X	X	X	X	X	H	L
L	L	H	L	X	X	H	X	X	X	X	X	L	H
L	L	H	H	X	X	X	L	X	X	X	X	H	L
L	L	H	H	X	X	X	H	X	X	X	X	L	H
L	H	L	L	X	X	X	X	L	X	X	X	H	L
L	H	L	L	X	X	X	X	H	X	X	X	L	H
L	H	L	H	X	X	X	X	X	L	X	X	H	L
L	H	L	H	X	X	X	X	X	H	X	X	L	H
L	H	H	L	X	X	X	X	X	X	L	X	H	L
L	H	H	L	X	X	X	X	X	X	H	X	L	H
L	H	H	H	X	X	X	X	X	X	X	L	H	L
L	H	H	H	X	X	X	X	X	X	X	H	L	H

74HC259D 8-addressable latch

SYMBOL	PIN	DESCRIPTION
A_0 to A_2	1,2,3	Address inputs
Q_0 to Q_7	4, 5, 6, 7, 9, 10, 11, 12	Latch outputs
GND	8	Ground
D	13	Data input
$\overline{LE}$	14	latch enable input (active LOW)
$\overline{MR}$	15	conditional reset input(active LOW)
V_{CC}	16	Positive supply voltage

FUNCTION TABLE

OPERATING MODES	**INPUTS**						**OUTPUTS**							
	$\overline{MR}$	**$\overline{LE}$**	**D**	**A0**	**A1**	**A2**	**Q0**	**Q1**	**Q2**	**Q3**	**Q4**	**Q**	**Q6**	**Q7**
master reset	L	H	X	X	X	X	L	L	L	L	L	L	L	L
demuliplex (active HIGH) decoder (when D=H)	L	L	d	L	L	L	Q=d	L	L	L	L	L	L	L
	L	L	d	H	L	L	L	Q=d	L	L	L	L	L	L
	L	L	d	L	H	L	L	L	Q=d	L	L	L	L	L
	L	L	d	H	H	L	L	L	L	Q=d	L	L	L	L
	L	L	d	L	L	H	L	L	L	L	Q=d	L	L	L
	L	L	d	H	L	H	L	L	L	L	L	Q=d	L	L
	L	L	d	L	H	H	L	L	L	L	L	L	Q=d	L
	L	L	d	H	H	H	L	L	L	L	L	L	L	Q=d
store (do nothing)	H	H	X	X	X	X	q_0	q_1	q_2	q_3	q_4	q	q_6	q_7
addressable latch	H	L	d	L	L	L	Q=d	q_1	q_2	q_3	q_4	q	q_6	q_6
	H	L	d	H	L	L	q_0	Q=d	q_2	q_3	q_4	q	q_6	q_6
	H	L	d	L	H	L	q_0	q_1	Q=d	q_3	q_4	q	q_6	q_6
	H	L	d	H	H	L	q_0	q_1	q_2	Q=d	q_4	q	q_6	q_6
	H	L	d	L	L	H	q_0	q_1	q_2	q_3	Q=d	q	q_6	q_6
	H	L	d	H	L	H	q_0	q_1	q_2	q_3	q_4	Q=d	q_6	q_6
	H	L	d	L	H	H	q_0	q_1	q_2	q_3	q_4	q	Q=d	q_6
	H	L	d	H	H	H	q_0	q_1	q_2	q_3	q_4	q	q_6	Q=d



H=HIGH voltage level.
L= LOW voltage level.
X= don't care.
d= HIGH or LOW data one set-up time prior to the LOW-to-HIGH $\overline{LE}$ transition.
q= lower case letters indicate the state of the referenced output established during the last cycle in which it was addressed or cleared.

DC voltages of microprocessor (FM mode, set tuned)

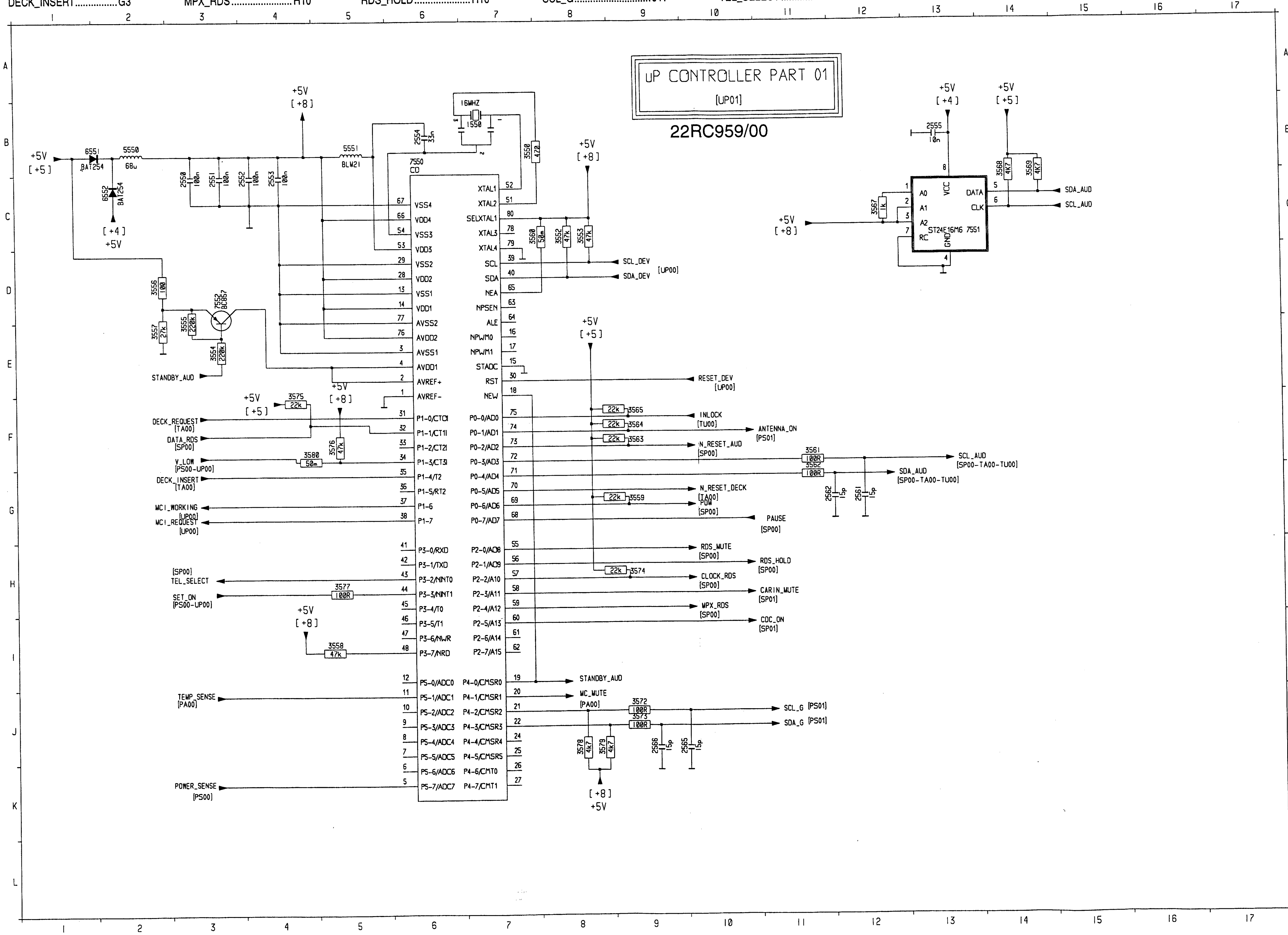
1	0.0V GND	41	N.C.
2	5.1V	42	N.C.
3	0.0V GND	43	4.8V
4	5.1V VDD	44	4.6V
5	4.4V	45	N.C.
6	N.C.	46	N.C.
7	N.C.	47	N.C.
8	N.C.	48	4.8V
9	N.C.	49	N.C.
10	0.5V	50	N.C.
11	0.8V	51	2.5V 16MHz
12	N.C.	52	2.1V 16MHz
13	0.0V GND	53	4.8V VDD
14	4.9 V VDD	54	0.0V
15	0.0V GND	55	4.8V
16	N.C.	56	4.8V
17	N.C.	57	4.9V
18	0.0V	58	4.8V
19	0.0V	59	0.0V
20	0.0V	60	0.0V
21	4.9V	61	N.C.
22	4.8V	62	N.C.
23	N.C.	63	N.C.
24	N.C.	64	N.C.
25	N.C.	65	4.8V
26	N.C.	66	4.8V VDD
27	N.C.	67	GND
28	5.0V VDD	68	0.0V
29	0.0V GND	69	0.0V
30	0.0V	70	0.0V
31	4.9V	71	5.0V
32	4.4V	72	4.9V
33	N.C.	73	5.1V
34	4.9V	74	5.2V
35	4.9V	75	5.2V
36	N.C.	76	4.9V VDD
37	4.8V	77	GND
38	4.9V	78	N.C.
39	4.8V	79	0.0V GND
40	4.8V	80	4.8V

ANTENNA_ON	F10
CARIN_MUTE	H10
CDC_ON	I10
CLOCK_RDS	H10
DATA_RDS	F3
DECK_INSERT	G3
DECK_REQUEST	F3
INLOCK	F10
MCI_REQUEST	G3
MCI_WORKING	G3
MC_MUTE	J8
MPX_RDS	H10
N_RESET_AUD	F10
N_RESET_DECK	G10
PAUSE	G10
POM	G10
POWER_SENSE	K3
RDS_HOLD	H10
RDS_MUTE	H10
REMOTE	I3
RESET_DEV	E10
SCL_AUD	C15/F13
SCL_DEV	D9
SCL_G	J11
SDA_AUD	C15/G12
SDA_DEV	D9
SDA_G	J11
SET_ON	H3
STANDBY_AUD	E3/I8
TEL_SELECT	H3
TEMP_SENSE	J3
V_LOW	F3

uP CONTROLLER PART 01

[UP01]

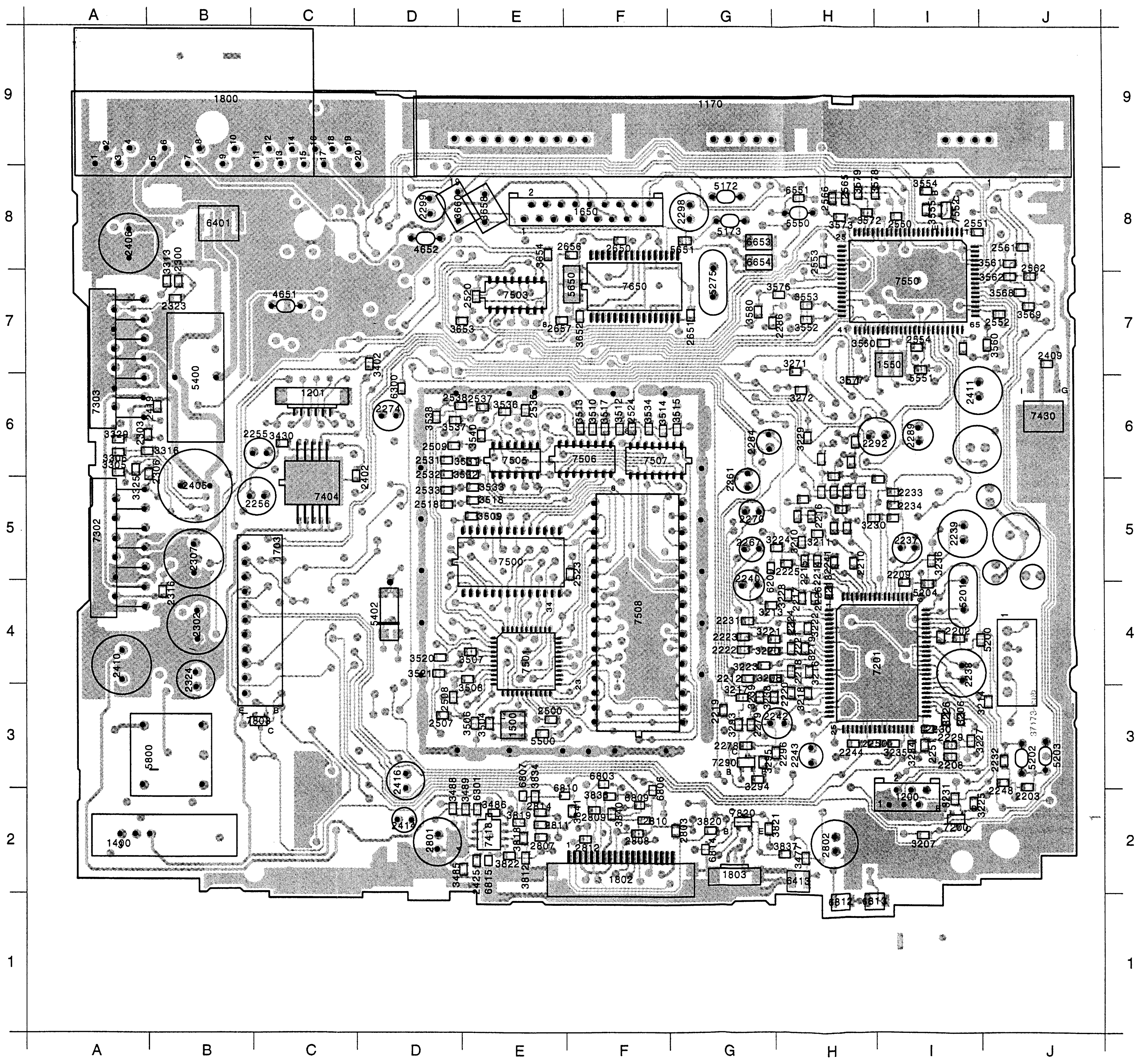
22RC959/00



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L
+5V [+5]
6551 BAT254
5550 68u
6552 BAT254
[+4] +5V
+5V [+8]
2550 100n
2551 100n
2552 100n
2553 100n
5551 BLM21
2554 33n
16MHZ 1550
3550 470
7550 CD
VSS4 67
VDD4 66
VSS3 54
VDD3 53
VSS2 29
VDD2 28
VSS1 13
VDD1 14
AVSS2 77
AVDD2 76
AVSS1 3
AVDD1 4
AVREF+ 2
AVREF- 1
P1-0/CT0I 31
P1-1/CT1I 32
P1-2/CT2I 33
P1-3/CT3I 34
P1-4/T2 35
P1-5/RT2 36
P1-6 37
P1-7 38
P3-0/RXD 41
P3-1/TXD 42
P3-2/NINT0 43
P3-3/NINT1 44
P3-4/T0 45
P3-5/T1 46
P3-6/NWR 47
P3-7/NRD 48
P5-0/ADC0 12
P5-1/ADC1 11
P5-2/ADC2 10
P5-3/ADC3 9
P5-4/ADC4 8
P5-5/ADC5 7
P5-6/ADC6 6
P5-7/ADC7 5
XTAL1 52
XTAL2 51
SELXTAL1 80
XTAL3 78
XTAL4 79
SCL 39
SDA 40
NEA 65
NPSEN 63
ALE 64
NPWM0 16
NPWM1 17
STADC 15
RST 30
NEW 18
P0-0/AD0 75
P0-1/AD1 74
P0-2/AD2 73
P0-3/AD3 72
P0-4/AD4 71
P0-5/AD5 70
P0-6/AD6 69
P0-7/AD7 68
P2-0/AD8 55
P2-1/AD9 56
P2-2/A10 57
P2-3/A11 58
P2-4/A12 59
P2-5/A13 60
P2-6/A14 61
P2-7/A15 62
P4-0/CMSR0 19
P4-1/CMSR1 20
P4-2/CMSR2 21
P4-3/CMSR3 22
P4-4/CMSR4 24
P4-5/CMSR5 25
P4-6/CMT0 26
P4-7/CMT1 27
3556 100
3557 27k
3555 220k
7552 BC857
3554 220k
STANDBY_AUD
+5V [+5] 3575 22k
+5V [+8]
3576 47k
DECK_REQUEST [TA00]
DATA_RDS [SP00]
V_LOW [PS00-UP00]
3580 50m
DECK_INSERT [TA00]
MCI_WORKING [UP00]
MCI_REQUEST [UP00]
[SP00] TEL_SELECT
SET_ON [PS00-UP00]
3577 100R
+5V [+8]
3558 47k
TEMP_SENSE [PA00]
POWER_SENSE [PS00]
+5V [+8]
3560 50m
3552 47k
3553 47k
SCL_DEV
SDA_DEV [UP00]
+5V [+5]
RESET_DEV [UP00]
22k 3565
22k 3564
22k 3563
INLOCK [TU00]
ANTENNA_ON [PS01]
N_RESET_AUD [SP00]
3561 100R
3562 100R
SCL_AUD [SP00-TA00-TU00]
SDA_AUD [SP00-TA00-TU00]
2562 15p
2561 15p
N_RESET_DECK [TA00]
22k 3559
POM [SP00]
PAUSE [SP00]
RDS_MUTE [SP00]
RDS_HOLD [SP00]
22k 3574
CLOCK_RDS [SP00]
CARIN_MUTE [SP01]
MPX_RDS [SP00]
CDC_ON [SP01]
STANDBY_AUD
MC_MUTE [PA00]
3572 100R
3573 100R
SCL_G [PS01]
SDA_G [PS01]
3578 4k7
3579 4k7
2566 15p
2565 15p
[+8] +5V
+5V [+4]
+5V [+5]
2555 10n
8
3568 4K7
3569 4K7
1 A0
2 A1
3 A2
7 RC
VCC
GND
4
DATA 5
CLK 6
ST24E16M6 7551
3567 1k
+5V [+8]
SDA_AUD
SCL_AUD

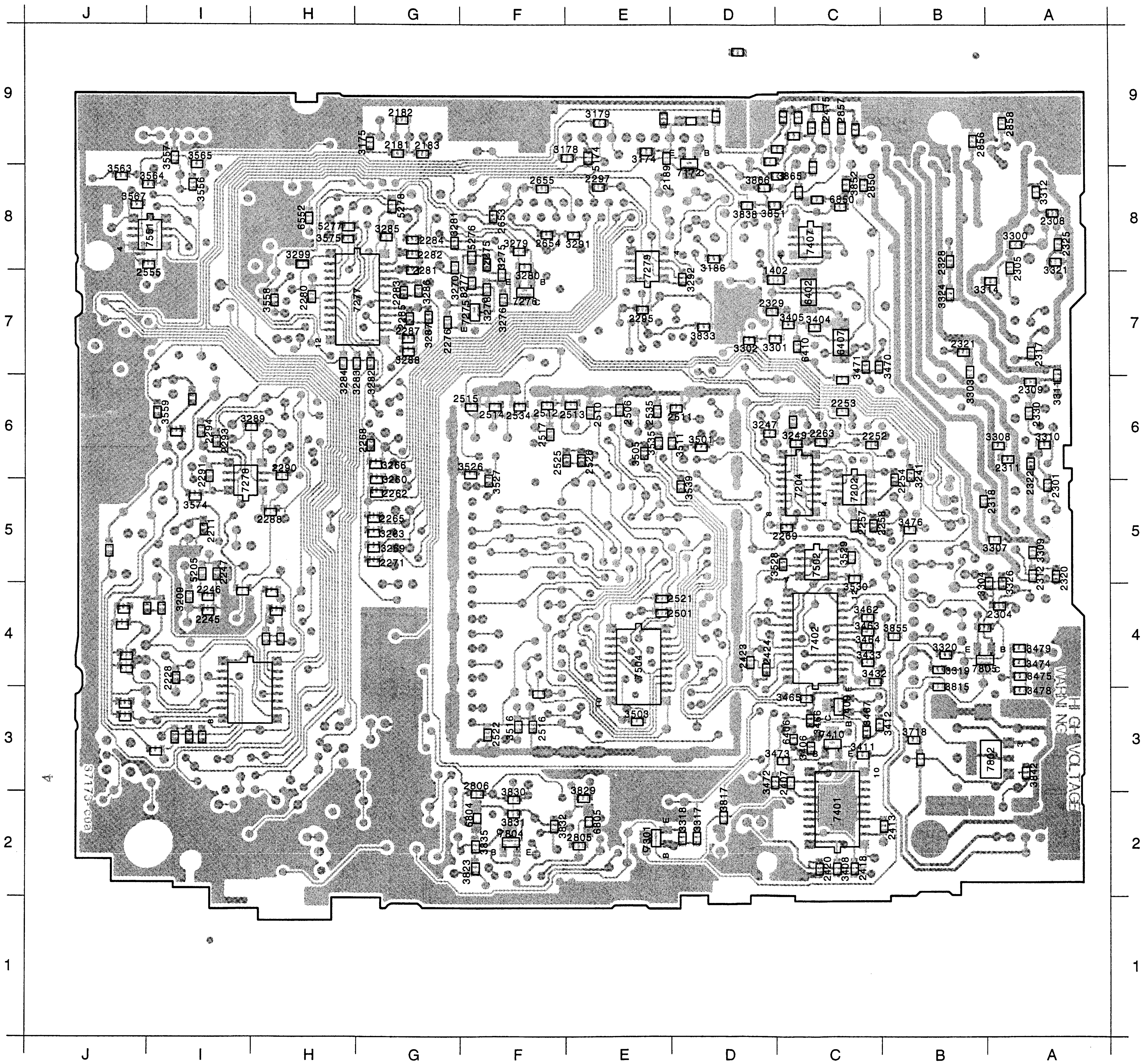
	1550	B 7	
	2550	C 3	
	2551	C 3	
A	2552	C 4	
	2553	C 4	
	2554	B 6	
	2555	B13	
	2561	G12	
	2562	G11	
B	2565	J 9	
	2566	J 9	
	3550	B 7	
	3552	C 8	
	3553	C 8	
	3554	E 3	
C	3555	D 3	
	3556	D 2	
	3557	E 2	
	3558	I 5	
	3559	G 9	
	3560	C 7	
D	3561	F11	
	3562	G11	
	3563	F 9	
	3564	F 9	
	3565	F 9	
	3567	C12	
E	3568	B14	
	3569	B14	
	3572	J 9	
	3573	J 9	
	3574	H 9	
	3575	F 4	
F	3576	F 5	
	3577	H 5	
	3578	J 8	
	3579	J 8	
	3580	F 4	
	5550	B 2	
G	5551	B 5	
	6551	B 2	
	6552	C 2	
	7550	B 6	
	7551	C14	
	7552	D 3	
H			
I			
J			
K			
L			

22RC959/00 PWB LAYOUT - TOPSIDE VIEW


A
B
C
D
E
F
G
H
I
J
9
8
7
6
5
4
3
2
1
1800
1170
1650
6401
7650
7503
7550
5400
1201
7303
7302
1703
7404
7500
7505
7506
7507
7508
7501
7201
1550
7430
5800
1400
1802
1803
1500
5500
7418
7290
7200
7820
5402
2406
2405
2307
2302
2410
2324
2801
2802
2411
2239
2238

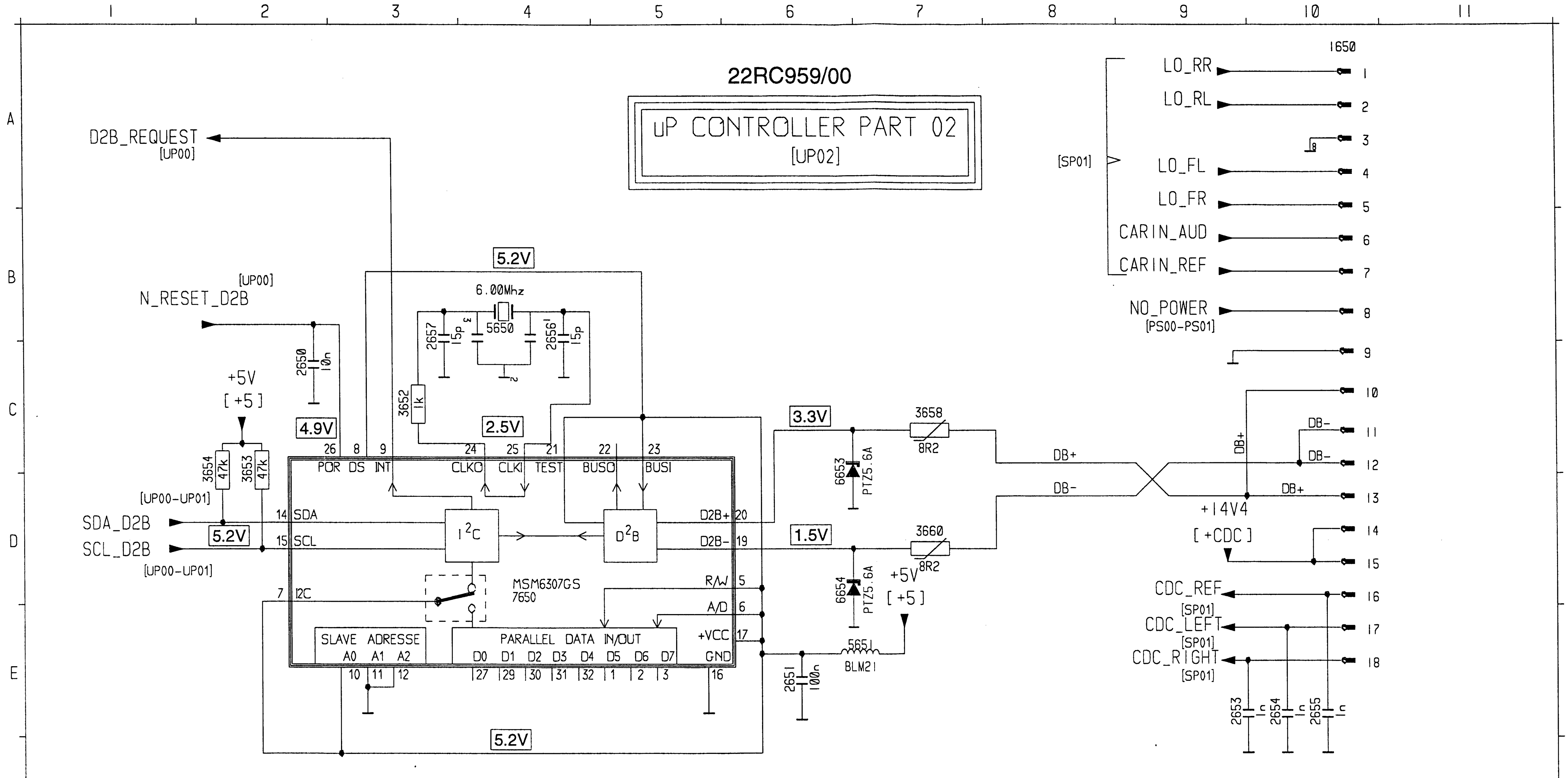
1170	G 8	2414	D 2	3316	A 5	5500	E 2
1200	I 2	2416	D 2	3325	A 5	5550	H 7
1201	C 6	2419	B 6	3329	A 5	5551	I 6
1400	B 1	2425	E 1	3402	D 6	5650	F 7
1500	E 2	2500	E 2	3430	C 5	5651	G 7
1550	I 6	2507	D 3	3477	H 1	5800	B 2
1650	F 7	2508	D 3	3485	E 1	6200	G 4
1703	B 3	2509	D 5	3486	E 2	6300	D 6
1800	B 8	2518	D 5	3488	D 2	6301	E 2
1802	F 1	2520	E 7	3489	E 2	6401	B 7
1803	G 1	2523	F 4	3504	E 2	6413	H 1
2202	I 3	2524	F 5	3506	E 2	6551	H 8
2203	J 2	2531	D 5	3507	E 3	6653	G 7
2208	I 2	2532	D 5	3508	E 3	6654	G 7
2209	I 4	2533	D 5	3509	E 4	6803	F 2
2210	H 4	2536	E 5	3510	F 5	6806	F 2
2212	G 3	2537	E 6	3512	F 5	6807	E 2
2213	H 4	2538	D 6	3513	F 5	6809	F 2
2214	H 4	2550	I 7	3514	F 5	6810	E 2
2215	H 4	2551	I 7	3515	G 5	6812	H 1
2216	H 4	2552	J 6	3517	F 5	6813	H 1
2217	H 4	2553	H 7	3518	E 5	6814	G 1
2218	H 3	2554	I 6	3520	D 3	6815	E 1
2219	G 3	2561	J 7	3521	D 3	7200	I 2
2220	H 3	2562	J 7	3531	E 5	7201	H 3
2221	H 3	2565	H 8	3532	E 5	7290	G 2
2222	G 3	2566	H 8	3533	E 5	7302	A 4
2223	G 3	2650	F 7	3534	F 5	7303	A 6
2224	H 3	2651	G 6	3536	E 5	7404	C 5
2225	H 4	2656	F 7	3537	D 5	7418	E 1
2226	H 4	2657	E 6	3538	D 5	7430	J 5
2229	I 2	2801	D 1	3540	E 5	7500	E 4
2230	I 2	2802	H 1	3550	I 6	7501	E 3
2231	G 3	2803	G 1	3552	H 6	7503	E 7
2232	J 2	2807	E 1	3553	H 6	7505	E 5
2233	I 5	2808	F 1	3554	I 8	7506	F 5
2234	I 5	2809	F 2	3555	I 7	7507	F 5
2237	I 4	2810	F 2	3560	J 6	7508	F 4
2238	I 3	2811	E 1	3561	J 7	7550	I 7
2239	I 4	2812	F 1	3562	J 7	7552	I 7
2240	G 4	2814	E 2	3568	J 7	7650	F 7
2241	H 4	3206	I 2	3569	J 6	7803	C 2
2242	H 2	3207	I 1	3572	H 7	7820	G 2
2243	H 2	3208	G 3	3573	H 7		
2244	H 2	3210	H 4	3576	H 7		
2248	J 2	3211	H 4	3577	H 6		
2250	H 2	3213	G 4	3578	H 8		
2251	I 2	3214	J 3	3579	H 8		
2255	C 5	3216	H 3	3580	G 6		
2256	C 5	3217	G 3	3652	F 6		
2261	G 5	3218	H 3	3653	E 6		
2264	G 5	3219	H 3	3654	E 7		
2267	G 4	3220	G 3	3658	E 7		
2270	G 4	3221	G 3	3660	D 7		
2274	D 5	3222	H 3	3812	E 1		
2278	G 2	3223	G 3	3818	E 1		
2279	G 2	3224	H 4	3819	E 2		
2286	G 6	3225	I 2	3820	G 1		
2289	I 5	3226	I 2	3821	G 1		
2292	H 5	3227	I 2	3822	E 1		
2296	G 2	3228	H 4	3834	E 2		
2298	G 7	3229	H 5	3836	F 2		
2299	D 7	3230	H 4	3837	H 1		
2300	B 7	3231	I 2	3840	F 2		
2302	B 3	3234	I 2	3841	F 2		
2303	A 5	3235	I 2	4651	C 6		
2306	A 5	3236	I 4	4652	D 7		
2307	B 4	3238	G 3	5172	G 8		
2316	B 4	3239	G 3	5173	G 7		
2323	B 7	3271	H 6	5200	I 3		
2324	B 3	3272	H 6	5201	I 4		
2402	C 5	3293	G 2	5202	J 2		
2405	B 5	3294	G 2	5203	J 2		
2406	A 7	3295	G 2	5204	I 4		
2409	J 6	3305	A 5	5275	G 7		
2410	A 3	3306	A 5	5400	B 6		
2411	I 6	3313	B 7	5402	D 4		

22RC959/00 PWB LAYOUT - BOTTOMSIDE VIEW



1402	D	7
2181	G	8
2182	G	8
2183	G	8
2189	E	8
2211	I	4
2228	I	3
2245	I	4
2246	I	4
2247	I	4
2252	C	5
2253	C	5
2254	C	5
2257	C	4
2258	C	4
2262	H	5
2263	C	5
2265	H	4
2268	H	5
2269	D	4
2271	H	4
2275	F	7
2276	G	6
2280	H	7
2281	G	7
2282	G	7
2283	G	7
2284	G	7
2285	G	6
2287	G	6
2288	I	5
2290	H	5
2291	I	5
2293	I	5
2294	I	5
2295	E	6
2297	E	8
2301	A	5
2304	B	4
2305	A	7
2308	A	7
2309	A	6
2311	B	5
2312	A	4
2317	A	6
2318	B	5
2320	A	4
2321	B	6
2322	A	5
2325	A	7
2328	B	7
2329	D	6
2330	A	5
2407	D	2
2413	C	1
2415	C	8
2418	C	1
2420	C	1
2423	D	3
2424	D	3
2501	E	4
2506	E	5
2510	E	5
2511	E	6
2512	F	6
2513	F	6
2514	F	6
2515	G	6
2516	F	2
2517	F	5
2521	E	4
2522	F	2
2525	F	5
2526	F	5
2534	F	6
2535	E	5
2555	J	7
2653	F	7
2654	F	7
2655	F	8
2805	F	1
2806	G	2
2850	C	8
2856	B	8
2857	C	8
2858	B	8
3174	E	8
3175	H	8
3178	F	8
3179	E	8
3186	D	7
3209	I	4
3241	B	5
3247	D	5
3249	D	5
3260	H	5
3263	H	4
3266	H	5
3269	H	4
3270	G	7
3275	F	7
3276	F	7
3277	G	7
3278	F	7
3279	F	7
3280	F	7
3281	G	7
3282	H	6
3283	H	6
3284	H	6
3285	G	7
3286	G	7
3287	G	6
3288	G	6
3289	I	5
3291	F	7
3292	E	7
3299	H	7
3300	A	7
3301	D	6
3302	D	6
3303	B	6
3304	B	4
3307	B	4
3308	B	5
3309	A	4
3310	A	5
3311	A	6
3312	A	8
3314	B	7
3317	D	1
3318	E	1
3319	B	3
3320	B	3
3321	A	7
3324	B	7
3326	B	4
3404	C	6
3405	D	6
3406	C	2
3408	C	1
3411	C	2
3412	C	2
3432	C	3
3433	C	3
3462	C	3
3463	C	3
3464	C	3
3465	C	3
3466	C	3
3467	C	2
3470	C	6
3471	C	6
3472	D	2
3473	D	2
3474	A	3
3475	A	3
3476	B	4
3478	A	3
3479	A	3
3501	D	5
3503	E	2
3505	E	5
3511	E	5
3516	F	2
3526	G	5
3527	F	5
3528	D	4
3529	C	4
3530	C	4
3535	E	5
3539	E	5
3556	I	8
3557	I	8
3558	H	7
3559	J	5
3563	J	8
3564	J	8
3565	I	8
3567	J	7
3574	I	5
3575	H	7
3718	B	2
3815	B	3
3817	D	2
3823	G	1
3829	F	2
3830	F	2
3831	F	2
3832	F	1
3833	D	6
3835	G	1
3838	D	7
3842	A	2
3851	D	7
3852	C	8
3855	C	3
3865	D	8
3866	D	8
4999	D	9
5174	F	8
5205	I	4
5276	G	7
5277	H	7
5278	G	7
6402	C	7
6406	D	2
6407	C	6
6410	D	6
6552	H	7
6804	G	2
6805	F	2
6850	C	7
7172	E	8
7202	C	5
7204	D	5
7275	G	6
7276	F	7
7277	H	7
7278	I	5
7279	E	7
7301	E	1
7401	C	2
7402	C	3
7407	C	7
7409	C	3
7410	C	2
7502	C	4
7504	E	3
7551	J	7
7802	B	2
7804	F	1
7805	B	3

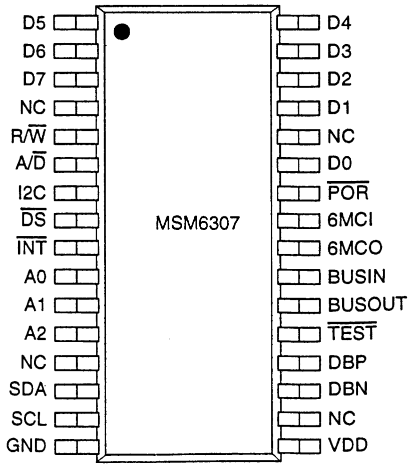
CARIN_AUD	B9
CARIN_REF	B9
CDC_LEFT	E9
CDC_REF	D9
CDC_RIGHT	E9
D2B_REQUEST	A2
LO_FL	A9
LO_FR	A9
LO_RL	A9
LO_RR	A9
NO_POWER	B9
N_RESET_D2B	B2
SCL_D2B	D1
SDA_D2B	D1


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
22RC959/00
uP CONTROLLER PART 02
[UP02]
D2B_REQUEST
[UP00]
N_RESET_D2B
[UP00]
2650 10n
+5V
[+5]
3654 47k
3653 47k
4.9V
[UP00-UP01]
SDA_D2B
5.2V
SCL_D2B
[UP00-UP01]
5.2V
6.00Mhz
2657 15p
5650
2656 15p
3652 1k
2.5V
26 POR
8 DS
9 INT
24 CLKO
25 CLKI
21 TEST
22 BUSO
23 BUSI
14 SDA
15 SCL
7 I2C
I²C
D²B
MSM6307GS
7650
D2B+ 20
D2B- 19
R/W 5
A/D 6
+VCC 17
GND 16
SLAVE ADRESSE
A0 A1 A2
10 11 12
PARALLEL DATA IN/OUT
D0 D1 D2 D3 D4 D5 D6 D7
27 29 30 31 32 1 2 3
5.2V
3.3V
1.5V
3658
8R2
3660
8R2
6653 PTZ5.6A
6654 PTZ5.6A
+5V
[+5]
5651
BLM21
2651 100n
DB+
DB-
1650
LO_RR
LO_RL
[SP01]
LO_FL
LO_FR
CARIN_AUD
CARIN_REF
NO_POWER
[PS00-PS01]
DB+
DB-
DB-
DB+
+14V4
[+CDC]
CDC_REF
[SP01]
CDC_LEFT
[SP01]
CDC_RIGHT
[SP01]
2653 1n
2654 1n
2655 1n
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

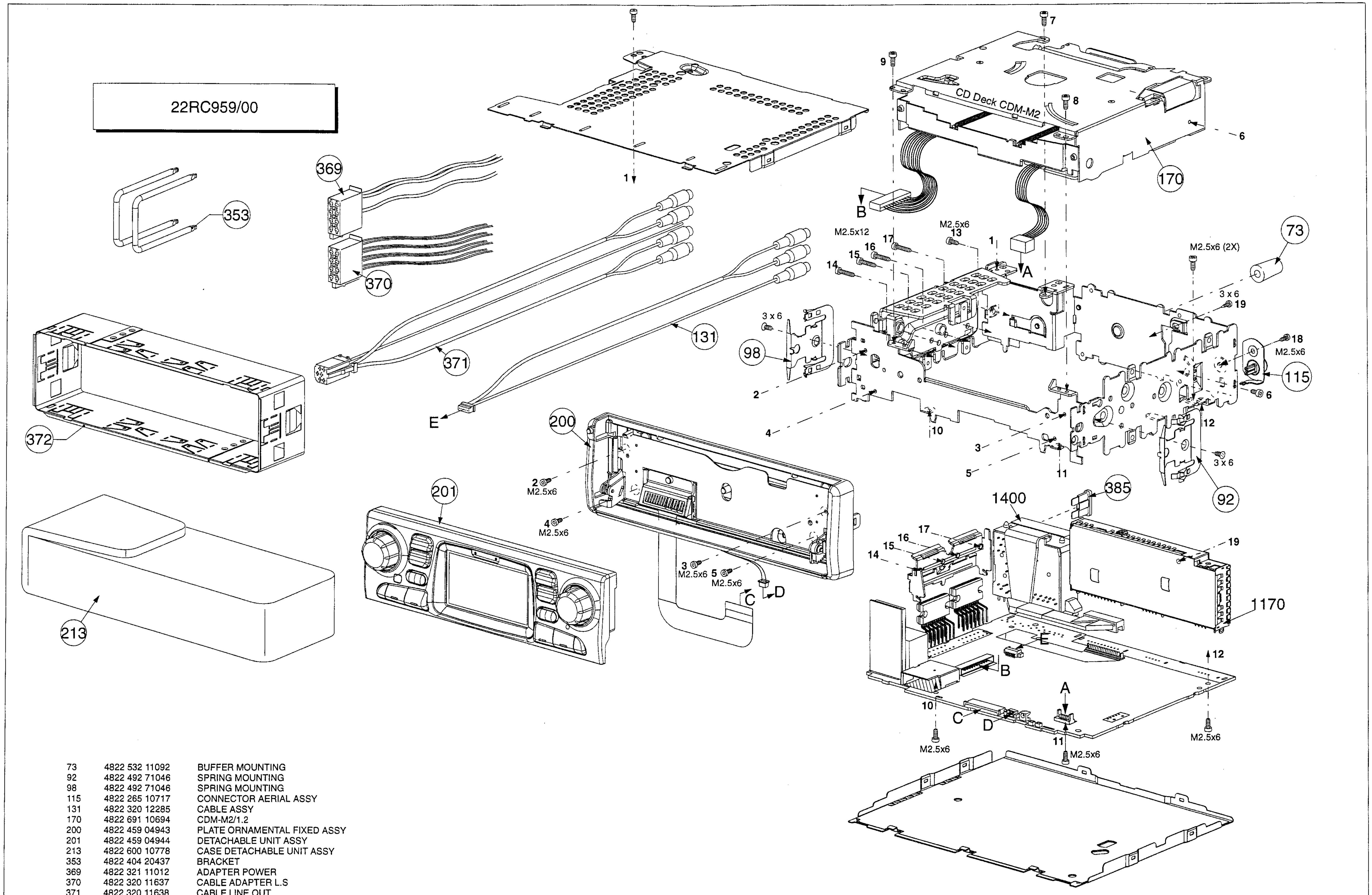
1650	E10
2650	C 2
2651	E 6
2653	E 9
2654	E10
2655	E10
2656	B 4
2657	B 3
3652	C 3
3653	C 2
3654	C 2
3658	C 7
3660	D 7
5650	B 4
5651	E 7
6653	C 6
6654	D 6
7650	D 4

MSM6307GS D²B IC

SYMBOL	I/O	DESCRIPTION
POR	I	Power on - reset
R / W	I	Read / Write selector
DS	I	Data strobe to access data bus
A / D	I	Selects address or data on D0 ~ d7
SDA	I/O	I²C data signal input / output
SCL	I/O	I²C clock signal input / output
I2C	I	Selects I²C or parallel interface
INT	O	Interrupt output
BUSIN	I	D2B input (TTL level)
BUSOUT	O	D2B output (TTL level)
DBN & DBP	I/Os	Differential D2B lines of the internal driver/ receiver, to be terminated with 60Ω
TEST	I	Selects the test mode for factory purposes
6MCI	I	Clock input 6MHz resonator or X-TAL
6MCO	O	Clock output 6MHz resonator or X-TAL
D0 ~ D7	I/Os	8-bit bi-directional address or data bus
A0 ~ A2	I	Programmables I²C slave addresses


MSM6307
D5
D6
D7
NC
R/W
A/D
I2C
DS
INT
A0
A1
A2
NC
SDA
SCL
GND
D4
D3
D2
D1
NC
D0
POR
6MCI
6MCO
BUSIN
BUSOUT
TEST
DBP
DBN
NC
VDD

22RC959/00



CD Deck CDM-M2
170
73
M2.5x6 (2X)
3 x 6
19
18
M2.5x6
115
6
7
8
9
1
B
A
M2.5x12
M2.5x6
13
17
16
15
14
98
2
4
10
3
5
11
12
92
369
370
353
371
131
E
372
200
201
213
M2.5x6
C
D
1400
385
1170
M2.5x6

73	4822 532 11092	BUFFER MOUNTING
92	4822 492 71046	SPRING MOUNTING
98	4822 492 71046	SPRING MOUNTING
115	4822 265 10717	CONNECTOR AERIAL ASSY
131	4822 320 12285	CABLE ASSY
170	4822 691 10694	CDM-M2/1.2
200	4822 459 04943	PLATE ORNAMENTAL FIXED ASSY
201	4822 459 04944	DETACHABLE UNIT ASSY
213	4822 600 10778	CASE DETACHABLE UNIT ASSY
353	4822 404 20437	BRACKET
369	4822 321 11012	ADAPTER POWER
370	4822 320 11637	CABLE ADAPTER L.S
371	4822 320 11638	CABLE LINE OUT
372	4822 443 30463	SLEEVE
375	4822 736 15995	DIRECTIONS FOR USE

Miscellaneous

1170	4822 210 10721	TUNER
1400	4822 218 11862	S.M.P.S. ASSY 5,3V 1,2A
1402	4822 253 30446	2,00A 32V 3,02X1,6X1,2 F
1500	4822 242 10868	CSTCS24.00MX040 R
1550	4822 242 10564	CSTCS16.00MX040-TC
1800	4822 265 10941	CONN. BLOCK A.B.C. V3

⊣⊢

2181	5322 122 32531	100pF 5% NP0 50V
2182	5322 122 32654	22nF 10% X7R 63V
2183	5322 122 32654	22nF 10% X7R 63V
2189	4822 126 13196	100nF 10% 0805 X7R 25V
2202	5322 122 34123	1nF 10% X7R 50V
2203	4822 126 13196	100nF 10% 0805 X7R 25V
2208	5322 122 32531	100pF 5% NP0 50V
2209	4822 126 12105	33nF 5% X7R 63V
2210	5322 122 32654	22nF 10% X7R 63V
2211	4822 126 13196	100nF 10% 0805 X7R 25V
2212	5322 122 34098	10nF 10% X7R 63V
2213	5322 122 34098	10nF 10% X7R 63V
2214	5322 122 31863	330pF 5% NP0 50V
2215	5322 122 33538	150pF 2% NP0 63V
2216	5322 122 31863	330pF 5% NP0 50V
2217	5322 122 34123	1nF 10% X7R 50V
2218	5322 122 34123	1nF 10% X7R 50V
2219	5322 122 34098	10nF 10% X7R 63V
2220	5322 122 34123	1nF 10% X7R
2221	5322 122 34123	1nF 10% X7R 50V
2222	5322 122 34098	10nF 10% X7R 63V
2223	5322 122 34098	10nF 10% X7R 63V
2224	5322 122 34123	1nF 10% X7R 50V
2225	4822 126 13196	100nF 10% 0805 X7R 25V
2226	5322 122 34123	1nF 10% X7R 50V
2228	4822 126 13196	100nF 10% 0805 X7R 25V
2229	5322 122 32531	100pF 5% NP0 50V
2230	5322 122 32531	100pF 5% NP0 50V
2231	4822 126 13196	100nF 10% 0805 X7R 25V
2232	4822 126 13196	100nF 10% 0805 X7R 25V
2233	5322 122 31863	330pF 5% NP0 50V
2234	5322 122 31863	330pF 5% NP0 50V
2237	4822 124 23279	22µF 20% 16V
2238	4822 124 23582	220µF 10V
2239	4822 124 11952	100µF 20% 16V
2240	4822 124 23279	22µF 20% 16V
2241	4822 126 14043	1µF +80-20% 16V
2242	4822 124 23279	22µF 20% 16V
2243	4822 124 23282	1µF 20% 50V
2244	5322 122 34123	1nF 10% X7R 50V
2245	5322 122 32269	6,8pF 5% 50V
2246	5322 122 32269	6,8pF 5% 50V
2247	5322 122 34123	1nF 10% X7R 50V
2248	4822 122 33575	220pF 5%NPO 50V
2250	5322 122 32531	100pF 5% NP0 50V
2251	5322 122 32531	100pF 5% NP0 50V
2252	4822 126 13849	220nF 10% 16V
2253	4822 126 13849	220nF 10% 16V
2254	4822 126 13196	100nF 10% 0805 X7R 25V
2255	4822 124 23279	22µF 20% 16V
2256	4822 124 22646	47µF 20% 16V

⊣⊢

2257	4822 126 14043	1µF +80-20% 16V
2258	4822 126 14043	1µF +80-20% 16V
2261	4822 124 41017	10µF 16V
2262	5322 122 34123	1nF 10% X7R 50V
2263	4822 126 13849	220nF 10% 16V
2264	4822 124 41017	10µF 16V
2265	5322 122 34123	1nF 10% X7R 50V
2267	4822 124 41017	10µF 16V
2268	5322 122 34123	1nF 10% X7R 50V
2269	5322 122 34123	1nF 10% X7R 50V
2270	4822 124 41017	10µF 16V
2271	5322 122 34123	1nF 10% X7R 50V
2274	4822 124 23279	22µF 20% 16V
2275	5322 122 32448	10pF 5% 50V
2276	5322 122 32659	33pF 5% 50V
2278	5322 122 34123	1nF 10% X7R 50V
2279	4822 126 14043	1µF +80-20% 16V
2280	4822 126 13849	220nF 10% 16V
2281	4822 126 13196	100nF 10% 0805 X7R 25V
2282	4822 126 13849	220nF 10% 16V
2283	4822 126 13694	68pF 1% NP0 63V
2284	4822 126 13196	100nF 10% 0805 X7R 25V
2285	4822 126 13694	68pF 1% NP0 63V
2286	4822 126 13196	100nF 10% 0805 X7R 25V
2287	5322 122 32654	22nF 10% X7R 63V
2288	4822 126 13849	220nF 10% 16V
2289	4822 124 23279	22µF 20% 16V
2290	4822 126 13849	220nF 10% 16V
2291	4822 126 13196	100nF 10% 0805 X7R 25V
2292	4822 124 22646	47µF 20% 16V
2293	4822 126 14043	1µF +80-20% 16V
2294	4822 126 14043	1µF +80-20% 16V
2295	4822 126 13196	100nF 10% 0805 X7R 25V
2296	4822 126 13849	220nF 10% 16V
2297	4822 126 13849	220nF 10% 16V
2298	4822 124 22646	47µF 20% 16V
2299	4822 124 23279	22µF 20% 16V
2300	4822 126 14043	1µF +80-20% 16V
2301	4822 126 14043	1µF +80-20% 16V
2302	4822 124 80061	1000µF 20% 25V
2303	4822 126 14043	1µF +80-20% 16V
2304	4822 126 14043	1µF +80-20% 16V
2305	4822 126 14043	1µF +80-20% 16V
2306	4822 126 14043	1µF +80-20% 16V
2307	4822 124 80061	1000µF 20% 25V
2308	5322 122 34098	10nF 10% X7R 63V
2309	5322 122 34098	10nF 10% X7R 63V
2311	5322 122 34098	10nF 10% X7R 63V
2312	5322 122 34098	10nF 10% X7R 63V
2316	4822 126 13196	100nF 10% 0805 X7R 25V
2317	4822 126 13196	100nF 10% 0805 X7R 25V
2318	4822 126 13196	100nF 10% 0805 X7R 25V
2320	4822 126 13196	100nF 10% 0805 X7R 25V
2321	4822 126 13196	100nF 10% 0805 X7R 25V
2322	4822 126 14043	1µF +80-20% 16V
2323	4822 126 14043	1µF +80-20% 16V
2324	4822 124 80453	100µF 20% 10V
2325	4822 126 13196	100nF 10% 0805 X7R 25V
2328	4822 126 13196	100nF 10% 0805 X7R 25V
2329	5322 122 34098	10nF 10% X7R 63V

⊣⊢		
2330	4822 126 13196	100nF 10% 0805 X7R 25V
2402	4822 126 12105	33nF 5%X7R 63V
2405	4822 124 80769	2200µF 20% 16V
2406	4822 124 23308	2200µF 20% 16V
2407	5322 122 32268	470pF 10% 50V
2409	4822 126 13849	220nF 10% 16V
2410	4822 124 80061	1000µF 20% 25V
2411	4822 124 11952	100µF 20% 16V
2413	4822 126 14043	1µF +80-20% 16V
2414	4822 124 23282	1µF 20% 50V
2415	4822 122 33575	220pF 5%NPO 50V
2416	4822 124 22646	47µF 20% 16V
2418	4822 126 13849	220nF 10% 16V
2419	5322 126 10223	4,7nF 10% X7R 63V
2420	4822 126 13196	100nF 10% 0805 X7R 25V
2423	5322 122 33244	8,2pF 5%NPO 50V
2424	5322 122 33244	8,2pF 5%NPO 50V
2425	5322 122 32654	22nF 10% X7R 63V
2500	5322 122 34098	10nF 10% X7R 63V
2501	5322 122 34098	10nF 10% X7R 63V
2506	5322 122 34123	1nF 10% X7R 50V
2507	5322 122 34123	1nF 10% X7R 50V
2508	5322 122 34123	1nF 10% X7R 50V
2509	5322 122 34123	1nF 10% X7R 50V
2510	5322 122 34123	1nF 10% X7R 50V
2511	5322 122 34123	1nF 10% X7R 50V
2512	5322 122 34123	1nF 10% X7R 50V
2513	5322 122 34123	1nF 10% X7R 50V
2514	5322 122 34123	1nF 10% X7R 50V
2515	5322 122 34123	1nF 10% X7R 50V
2516	5322 122 34123	1nF 10% X7R 50V
2517	5322 122 34123	1nF 10% X7R 50V
2518	5322 122 34098	10nF 10% X7R 63V
2520	5322 122 34098	10nF 10% X7R 63V
2521	5322 122 34098	10nF 10% X7R 63V
2522	5322 122 34098	10nF 10% X7R 63V
2523	5322 122 34098	10nF 10% X7R 63V
2524	5322 122 34098	10nF 10% X7R 63V
2525	5322 122 34098	10nF 10% X7R 63V
2526	5322 122 34098	10nF 10% X7R 63V
2531	5322 122 34123	1nF 10% X7R 50V
2532	5322 122 34123	1nF 10% X7R 50V
2533	5322 122 34123	1nF 10% X7R 50V
2534	5322 122 34123	1nF 10% X7R 50V
2535	4822 126 13486	15pF 2% NP0 63V
2536	4822 126 13486	15pF 2% NP0 63V
2537	4822 126 13486	15pF 2% NP0 63V
2538	4822 126 13486	15pF 2% NP0 63V
2550	4822 126 13196	100nF 10% 0805 X7R 25V
2551	4822 126 13196	100nF 10% 0805 X7R 25V
2552	4822 126 13196	100nF 10% 0805 X7R 25V
2553	4822 126 13196	100nF 10% 0805 X7R 25V
2554	4822 126 12105	33nF 5%X7R 63V
2555	5322 122 34098	10nF 10% X7R 63V
2561	4822 126 13486	15pF 2% NP0 63V
2562	4822 126 13486	15pF 2% NP0 63V
2565	4822 126 13486	15pF 2% NP0 63V
2566	4822 126 13486	15pF 2% NP0 63V
2650	5322 122 34098	10nF 10% X7R 63V
2651	4822 126 13196	100nF 10% 0805 X7R 25V

⊣⊢		
2653	5322 122 34123	1nF 10% X7R 50V
2654	5322 122 34123	1nF 10% X7R 50V
2655	5322 122 34123	1nF 10% X7R 50V
2656	4822 126 13486	15pF 2% NP0 63V
2657	4822 126 13486	15pF 2% NP0 63V
2801	4822 124 23582	220µF 10V
2802	4822 124 23582	220µF 10V
2803	5322 122 32268	470pF 10% 50V
2805	5322 122 32531	100pF 5% NP0 50V
2806	5322 122 32531	100pF 5% NP0 50V
2807	5322 122 32268	470pF 10% 50V
2808	5322 122 32268	470pF 10% 50V
2809	5322 122 32268	470pF 10% 50V
2810	5322 122 32268	470pF 10% 50V
2811	5322 122 32268	470pF 10% 50V
2812	5322 122 32268	470pF 10% 50V
2814	5322 122 32268	470pF 10% 50V
2850	5322 122 34123	1nF 10% X7R 50V
2856	4822 122 33575	220pF 5%NPO 50V
2857	4822 122 33575	220pF 5%NPO 50V
2858	4822 122 33575	220pF 5%NPO 50V

⊣▭⊢		
3174	4822 051 20332	3K3 5% 0,1W
3175	4822 051 20102	1KΩ 5% 0,1W
3178	4822 051 20008	0Ω JUMP. (0805)
3179	4822 051 20008	0Ω JUMP. (0805)
3186	4822 117 11449	2K2 1% 0,1W
3206	4822 117 11503	220Ω 1% 0.1W
3207	4822 051 20101	100Ω 5% 0,1W
3208	4822 051 20101	100Ω 5% 0,1W
3209	4822 051 20104	100KΩ 5% 0,1W
3210	4822 051 20332	3K3 5% 0,1W
3211	4822 051 20332	3K3 5% 0,1W
3213	4822 051 20562	5K6 5% 0,1W
3214	4822 051 20101	100Ω 5% 0,1W
3216	4822 117 12955	2K7 1% 0,1W 0805
3217	4822 051 20101	100Ω 5% 0,1W
3218	4822 117 12955	2K7 1% 0,1W 0805
3219	4822 117 12955	2K7 1% 0,1W 0805
3220	4822 051 20101	100Ω 5% 0,1W
3221	4822 051 20101	100Ω 5% 0,1W
3222	4822 117 12955	2K7 1% 0,1W 0805
3223	4822 117 10965	18KΩ 1% 0,1W
3224	4822 051 20102	1KΩ 5% 0,1W
3225	4822 117 10834	47KΩ 1% 0,1W
3226	4822 117 11503	220Ω 1% 0.1W
3227	4822 117 11503	220Ω 1% 0.1W
3228	4822 051 20273	27KΩ 5% 0,1W
3229	4822 051 20472	4K7 5% 0,1W
3230	4822 051 20472	4K7 5% 0,1W
3231	4822 051 20472	4K7 5% 0,1W
3234	4822 117 11503	220Ω 1% 0.1W
3235	4822 117 11503	220Ω 1% 0.1W
3236	4822 051 20101	100Ω 5% 0,1W
3238	4822 117 12955	2K7 1% 0,1W 0805
3239	4822 117 12955	2K7 1% 0,1W 0805
3241	4822 051 20105	1MΩ 5% 0,1W
3247	4822 051 20105	1MΩ 5% 0,1W

3249	4822 051 20008	0Ω JUMP. (0805)
3260	4822 051 20223	22KΩ 5% 0,1W
3263	4822 051 20223	22KΩ 5% 0,1W
3266	4822 051 20223	22KΩ 5% 0,1W
3269	4822 051 20223	22KΩ 5% 0,1W
3270	4822 051 20122	1K2 5% 0,1W
3271	4822 117 11383	12KΩ 1% 0,1W
3272	4822 117 11383	12KΩ 1% 0,1W
3275	4822 051 20472	4K7 5% 0,1W
3276	4822 117 11139	1K5 1% 0,1W
3277	4822 051 20122	1K2 5% 0,1W
3278	4822 117 11149	82KΩ 1% 0,1W
3279	4822 117 10833	10KΩ 1% 0,1W
3280	4822 117 10834	47KΩ 1% 0,1W
3281	4822 051 20472	4K7 5% 0,1W
3282	4822 051 20331	330Ω 5% 0,1W
3283	4822 051 20331	330Ω 5% 0,1W
3284	4822 051 20331	330Ω 5% 0,1W
3285	4822 051 20478	4Ω7 5% 0,1W
3286	4822 117 10833	10KΩ 1% 0,1W
3287	4822 117 10833	10KΩ 1% 0,1W
3288	4822 051 20333	33KΩ 5% 0,1W
3289	4822 051 20105	1MΩ 5% 0,1W
3291	4822 051 20105	1MΩ 5% 0,1W
3292	4822 051 20008	0Ω JUMP. (0805)
3293	4822 117 11139	1K5 1% 0,1W
3294	4822 051 20224	220KΩ 5% 0,1W
3295	4822 051 20104	100KΩ 5% 0,1W
3299	4822 051 20109	10Ω 5% 0,1W
3300	4822 117 10833	10KΩ 1% 0,1W
3301	4822 051 20223	22KΩ 5% 0,1W
3302	4822 051 20332	3K3 5% 0,1W
3303	4822 051 20478	4Ω7 5% 0,1W
3304	4822 117 10833	10KΩ 1% 0,1W
3305	4822 117 10833	10KΩ 1% 0,1W
3306	4822 117 10833	10KΩ 1% 0,1W
3307	4822 051 20478	4Ω7 5% 0,1W
3308	4822 051 20478	4Ω7 5% 0,1W
3309	4822 051 20478	4Ω7 5% 0,1W
3310	4822 117 12955	2K7 1% 0,1W 0805
3311	4822 051 20478	4Ω7 5% 0,1W
3312	4822 051 20478	4Ω7 5% 0,1W
3313	4822 117 12955	2K7 1% 0,1W 0805
3314	4822 117 10833	10KΩ 1% 0,1W
3316	4822 117 10833	10KΩ 1% 0,1W
3317	4822 117 10834	47KΩ 1% 0,1W
3318	4822 117 10834	47KΩ 1% 0,1W
3319	4822 117 10833	10KΩ 1% 0,1W
3320	4822 051 20101	100Ω 5% 0,1W
3321	4822 051 20478	4Ω7 5% 0,1W
3324	4822 051 20478	4Ω7 5% 0,1W
3325	4822 117 10833	10KΩ 1% 0,1W
3326	4822 117 10833	10KΩ 1% 0,1W
3329	4822 116 10062	470Ω 50% 16V PTC 0805
3402	4822 117 10834	47KΩ 1% 0,1W
3404	4822 051 20224	220KΩ 5% 0,1W
3405	4822 051 20104	100KΩ 5% 0,1W
3406	4822 051 20154	150KΩ 5% 0,1W
3408	4822 051 20273	27KΩ 5% 0,1W
3411	4822 117 10834	47KΩ 1% 0,1W

3412	4822 117 10834	47KΩ 1% 0,1W
3430	4822 051 20109	10Ω 5% 0,1W
3432	4822 117 10834	47KΩ 1% 0,1W
3433	4822 117 10834	47KΩ 1% 0,1W
3462	4822 051 20104	100KΩ 5% 0,1W
3463	4822 051 20104	100KΩ 5% 0,1W
3464	4822 051 20104	100KΩ 5% 0,1W
3465	4822 117 10834	47KΩ 1% 0,1W
3466	4822 117 10834	47KΩ 1% 0,1W
3467	4822 051 20472	4K7 5% 0,1W
3470	4822 051 20104	100KΩ 5% 0,1W
3471	4822 117 10833	10KΩ 1% 0,1W
3472	4822 051 20102	1KΩ 5% 0,1W
3473	4822 117 10834	47KΩ 1% 0,1W
3474	4822 051 20109	10Ω 5% 0,1W
3475	4822 051 20109	10Ω 5% 0,1W
3476	4822 051 20008	0Ω JUMP. (0805)
3477	4822 051 20331	330Ω 5% 0,1W
3478	4822 051 20109	10Ω 5% 0,1W
3479	4822 051 20109	10Ω 5% 0,1W
3485	4822 051 20224	220KΩ 5% 0,1W
3486	4822 051 20273	27KΩ 5% 0,1W
3488	4822 117 10833	10KΩ 1% 0,1W
3489	4822 051 20334	330KΩ 5% 0,1W
3501	4822 051 20101	100Ω 5% 0,1W
3503	4822 051 20102	1KΩ 5% 0,1W
3504	4822 051 20471	470Ω 5% 0,1W
3505	4822 051 20101	100Ω 5% 0,1W
3506	4822 051 20102	1KΩ 5% 0,1W
3507	4822 051 20102	1KΩ 5% 0,1W
3508	4822 051 20101	100Ω 5% 0,1W
3509	4822 051 20008	0Ω JUMP. (0805)
3510	4822 117 11449	2K2 1% 0,1W
3511	4822 051 20101	100Ω 5% 0,1W
3512	4822 051 20101	100Ω 5% 0,1W
3513	4822 051 20472	4K7 5% 0,1W
3514	4822 051 20101	100Ω 5% 0,1W
3515	4822 051 20101	100Ω 5% 0,1W
3516	4822 051 20101	100Ω 5% 0,1W
3517	4822 051 20101	100Ω 5% 0,1W
3518	4822 117 10834	47KΩ 1% 0,1W
3520	4822 117 10834	47KΩ 1% 0,1W
3521	4822 117 10834	47KΩ 1% 0,1W
3526	4822 051 20008	0Ω JUMP. (0805)
3527	4822 051 20008	0Ω JUMP. (0805)
3528	4822 051 20102	1KΩ 5% 0,1W
3529	4822 117 10834	47KΩ 1% 0,1W
3530	4822 117 10834	47KΩ 1% 0,1W
3531	4822 051 20472	4K70 5% 0,1W
3532	4822 051 20101	100Ω 5% 0,1W
3533	4822 051 20101	100Ω 5% 0,1W
3534	4822 051 20101	100Ω 5% 0,1W
3535	4822 051 20101	100Ω 5% 0,1W
3536	4822 051 20101	100Ω 5% 0,1W
3537	4822 051 20101	100Ω 5% 0,1W
3538	4822 051 20101	100Ω 5% 0,1W
3539	4822 051 20472	4K7 5% 0,1W
3540	4822 051 20472	4K7 5% 0,1W
3550	4822 051 20471	470Ω 5% 0,1W
3552	4822 117 10834	47KΩ 1% 0,1W

3553	4822 117 10834	47KΩ 1% 0,1W
3554	4822 051 20224	220KΩ 5% 0,1W
3555	4822 051 20224	220KΩ 5% 0,1W
3556	4822 051 20101	100Ω 5% 0,1W
3557	4822 051 20273	27KΩ 5% 0,1W
3558	4822 117 10834	47KΩ 1% 0,1W
3559	4822 051 20223	22KΩ 5% 0,1W
3560	4822 051 20008	0Ω JUMP. (0805)
3561	4822 051 20101	100Ω 5% 0,1W
3562	4822 051 20101	100Ω 5% 0,1W
3563	4822 051 20223	22KΩ 5% 0,1W
3564	4822 051 20223	22KΩ 5% 0,1W
3565	4822 051 20223	22KΩ 5% 0,1W
3567	4822 051 20102	1KΩ 5% 0,1W
3568	4822 051 20472	4K7 5% 0,1W
3569	4822 051 20472	4K7 5% 0,1W
3572	4822 051 20101	100Ω 5% 0,1W
3573	4822 051 20101	100Ω 5% 0,1W
3574	4822 051 20223	22KΩ 5% 0,1W
3575	4822 051 20223	22KΩ 5% 0,1W
3576	4822 117 10834	47KΩ 1% 0,1W
3577	4822 051 20101	100Ω 5% 0,1W
3578	4822 051 20472	4K7 5% 0,1W
3579	4822 051 20472	4K7 5% 0,1W
3580	4822 051 20008	0Ω JUMP. (0805)
3652	4822 051 20102	1KΩ 5% 0,1W
3653	4822 117 10834	47KΩ 1% 0,1W
3654	4822 117 10834	47KΩ 1% 0,1W
3658	4822 116 10063	8,2Ω 25% 30V PTC
3660	4822 116 10063	8,2Ω 25% 30V PTC
3718	4822 051 20008	0Ω JUMP. (0805)
3812	4822 051 20104	100KΩ 5% 0,1W
3815	4822 117 10834	47KΩ 1% 0,1W
3817	4822 051 20228	2Ω2 5% 0,1W
3818	4822 117 10834	47KΩ 1% 0,1W
3819	4822 051 20472	4K7 5% 0,1W
3820	4822 051 20331	330Ω 5% 0,1W
3821	4822 051 20101	100Ω 5% 0,1W
3822	4822 051 20331	330Ω 5% 0,1W
3823	4822 051 20331	330Ω 5% 0,1W
3829	4822 051 20472	4K7 5% 0,1W
3830	4822 117 11503	220Ω 1% 0.1W
3831	4822 117 11503	220Ω 1% 0.1W
3832	4822 051 20331	330Ω 5% 0,1W
3833	4822 117 10834	47KΩ 1% 0,1W
3834	4822 051 20102	1KΩ 5% 0,1W
3835	4822 117 10833	10KΩ 1% 0,1W
3836	4822 117 10834	47KΩ 1% 0,1W
3837	4822 051 20101	100Ω 5% 0,1W
3838	4822 051 20102	1KΩ 5% 0,1W
3840	4822 051 20102	1KΩ 5% 0,1W
3841	4822 051 20102	1KΩ 5% 0,1W
3842	4822 051 20105	1MΩ 5% 0,1W
3851	4822 051 20008	0Ω JUMP. (0805)
3852	4822 117 10833	10KΩ 1% 0,1W
3855	4822 117 10833	10KΩ 1% 0,1W
3865	4822 051 20101	100Ω 5% 0,1W
3866	4822 051 20101	100Ω 5% 0,1W

5172	4822 157 10975	120UH 10%
5173	4822 157 71184	10UH 10%
5174	4822 157 71206	BLM21A601SPT
5200	4822 157 71206	BLM21A601SPT
5201	4822 242 10565	K1101-95880-2(36.860MHZ)
5202	4822 157 71184	10UH 10%
5203	4822 157 10976	68UH 10%
5204	4822 157 71206	BLM21A601SPT
5205	4822 157 10977	4,7UH 10%
5275	4822 242 81164	AT-51(11.2896MHZ)
5276	4822 157 71206	BLM21A601SPT
5277	4822 157 71206	BLM21A601SPT
5278	4822 157 71206	BLM21A601SPT
5400	4822 157 70935	COIL ASSY 97UH 10A
5402	4822 242 10398	TJ125DHB2 (32,768KHZ)
5500	4822 157 71206	BLM21A601SPT
5550	4822 157 10976	68UH 10%
5551	4822 157 71206	BLM21A601SPT
5650	4822 242 10709	CSTCS6.00MG-TC
5651	4822 157 71206	BLM21A601SPT
5800	4822 209 16297	LSYAA50

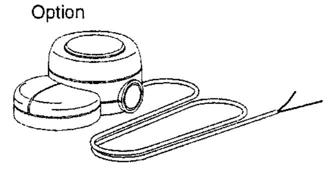
6200	4822 130 10654	BAT254
6300	4822 130 83757	BAS216
6301	4822 130 83757	BAS216
6401	4822 130 10488	S3G
6402	4822 130 10655	1SR154-400
6406	4822 130 10656	UDZ20B
6407	4822 130 10655	1SR154-400
6410	4822 130 83757	BAS216
6413	4822 130 11174	LSA670-JM
6551	4822 130 10654	BAT254
6552	4822 130 10654	BAT254
6653	4822 130 10657	PTZ5.6A
6654	4822 130 10657	PTZ5.6A
6803	4822 130 10185	UDZ5.6B
6804	4822 130 10185	UDZ5.6B
6805	4822 130 10185	UDZ5.6B
6806	4822 130 10185	UDZ5.6B
6807	4822 130 10185	UDZ5.6B
6809	4822 130 10185	UDZ5.6B
6810	4822 130 10185	UDZ5.6B
6812	4822 130 11175	LST670-JK
6813	4822 130 11175	LST670-JK
6814	4822 130 10185	UDZ5.6B
6815	4822 130 10185	UDZ5.6B
6850	4822 130 83757	BAS216

7172	4822 130 60511	BC847B
7200	4822 130 60511	BC847B
7201	4822 209 15479	SAA7701H/N212
7202	4822 209 33985	TDA8579T/N1
7204	5322 209 14481	HEF4053BT
7275	4822 130 60511	BC847B
7276	4822 130 60511	BC847B
7277	4822 209 16148	SAA7367T
7278	4822 209 33985	TDA8579T/N1
7279	4822 209 33985	TDA8579T/N1

7290	5322 130 60508	BC857B
7301	4822 130 60511	BC847B
7302	4822 209 16278	TDA1561Q/N2
7303	4822 209 16278	TDA1561Q/N2
7401	4822 209 14814	L4949NP
7402	4822 209 16279	SAA1305T
7404	4822 209 14815	VN06SP
7407	4822 209 15826	L9820D
7409	4822 130 60511	BC847B
7410	4822 130 60511	BC847B
7418	4822 209 33162	MC4558IDT
7430	4822 209 16281	LF85CDT
7500	4822 209 31553	FCB61C65LL
7501	4822 209 16282	P51XAG30KFBD
7503	5322 209 11102	HEF4052BT
7504	5322 209 60424	74HC573D
7505	4822 209 30426	74HC00D
7506	4822 209 91136	PC74HC259T
7507	4822 209 14819	74HC251D
7550	4822 209 16283	P83CE569EFB/021
7552	5322 130 60508	BC857B
7650	4822 209 32743	MSM6307GS
7802	5322 130 63033	BCP56
7803	4822 130 60511	BC847B
7804	4822 130 60511	BC847B
7805	4822 130 60511	BC847B
7820	4822 130 60511	BC847B

CD Car Radio 22RC959/00

Service
Service
Service



Supplement

For repair information of the CD deck, see service manual 4822 725 25483 of CD deck CDMM2.

Service Manual

This supplement must be used together with Service Manual 4822 725 25864.
It concerns the sets produced from FD01.
The main changes are: Added possibility for a 2 wired remote control in option,added TMC (Traffic Message Channel) features.
This supplement contains updated schematic diagrams (changed parts in blue), the new PWB layout and the updated electrical partslist.

12 V

Contents **page**

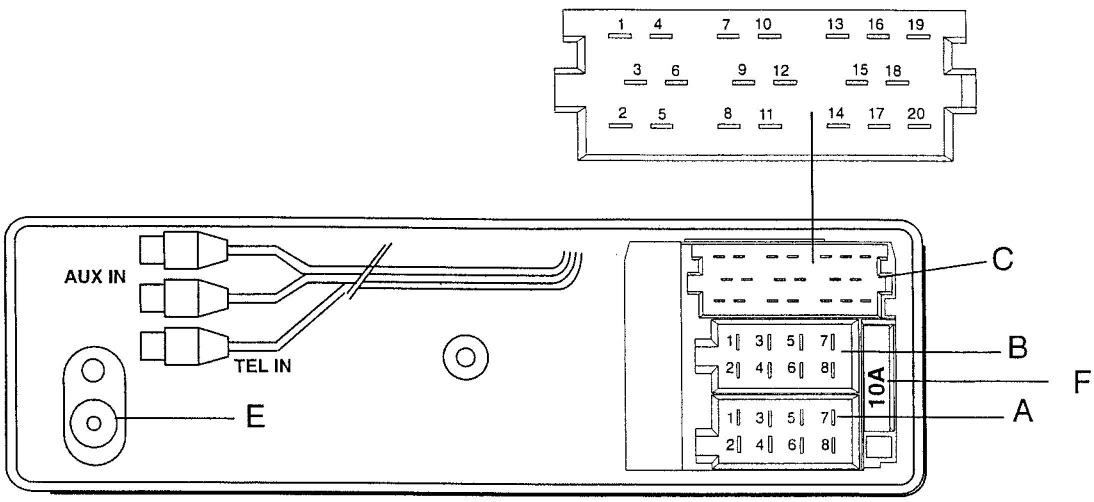
Connections 2
Power supply part 00 schematic diagram .... 3 - 3a
Power supply part 01 schematic diagram .... 4 - 4a
CD - Tuner part schematic diagram .... 5 - 5a
Main PWB layout - top side view .... 6 - 6a
Main PWB layout - bottom side view .... 7 - 7a
Sound processing part 01 schematic diagram .... 8 - 8a
Microcontroller part 00 schematic diagram .... 9 - 9a
Microcontroller part 01 schematic diagram .... 10 - 10a
Microcontroller part 02 schematic diagram .... 11 - 11a
Electrical partslist .... 12 - 12a to 14 - 14a

CLASS 1
LASER PRODUCT

Published by Philips Car Systems Printed in the Netherlands © Copyright reserved Subject to modification 4822 725 25868

PHILIPS

Zoom on C chamber



		Name of signal on schematic PS01
A : POWER SUPPLY		
A1	Telephone mute	A1
A2	Mouse GND*	A2
A3	Mouse	A3
A4	Plus permanent +	POWER
A5	Electrical antenna	A5
A6	External illumination plus	A6
A7	Ignition On / Off	NO_POWER
A8	Power ground	
B : LOUDSPEAKER SUPPLY		
B1	Rear right +	B1
B2	Rear right -	B2
B3	Front right +	B3
B4	Front right -	B4
B5	Front left +	B5
B6	Front left -	B6
B7	Rear left +	B7
B8	Rear left -	B8

			Name of signal on schematic UP02
C:			
C1	Line out Rear left	C1	LO_RL
C2	Line out Rear right		LO_RR
C3	Line out Gnd		
C4	Line out Front left		LO_FL
C5	Line out Front right		LO_FR
C6	= A5		
C7	= A7	C2	NO_POWER
C8	Carin in		CARIN_AUD
C9	Carin ref		CARIN_REF
C10	D2B+		DB+
C11	D2B GND		
C12	D2B-		DB-
C13	D2B+	C3	DB+
C14	D2B-		DB-
C15	D2B GND		
C16	+ Permanent		+14V4 CDC
C17	= A5		
C18	In ref		CDC_REF
C19	In left		CDC_LEFT
C20	In right		CDC_RIGHT

C1 Line out
for YELLOW connector

C2 Carin link
For GREEN connector

C3 CD changer
for BLUE connector

E : Aerial plug slide in

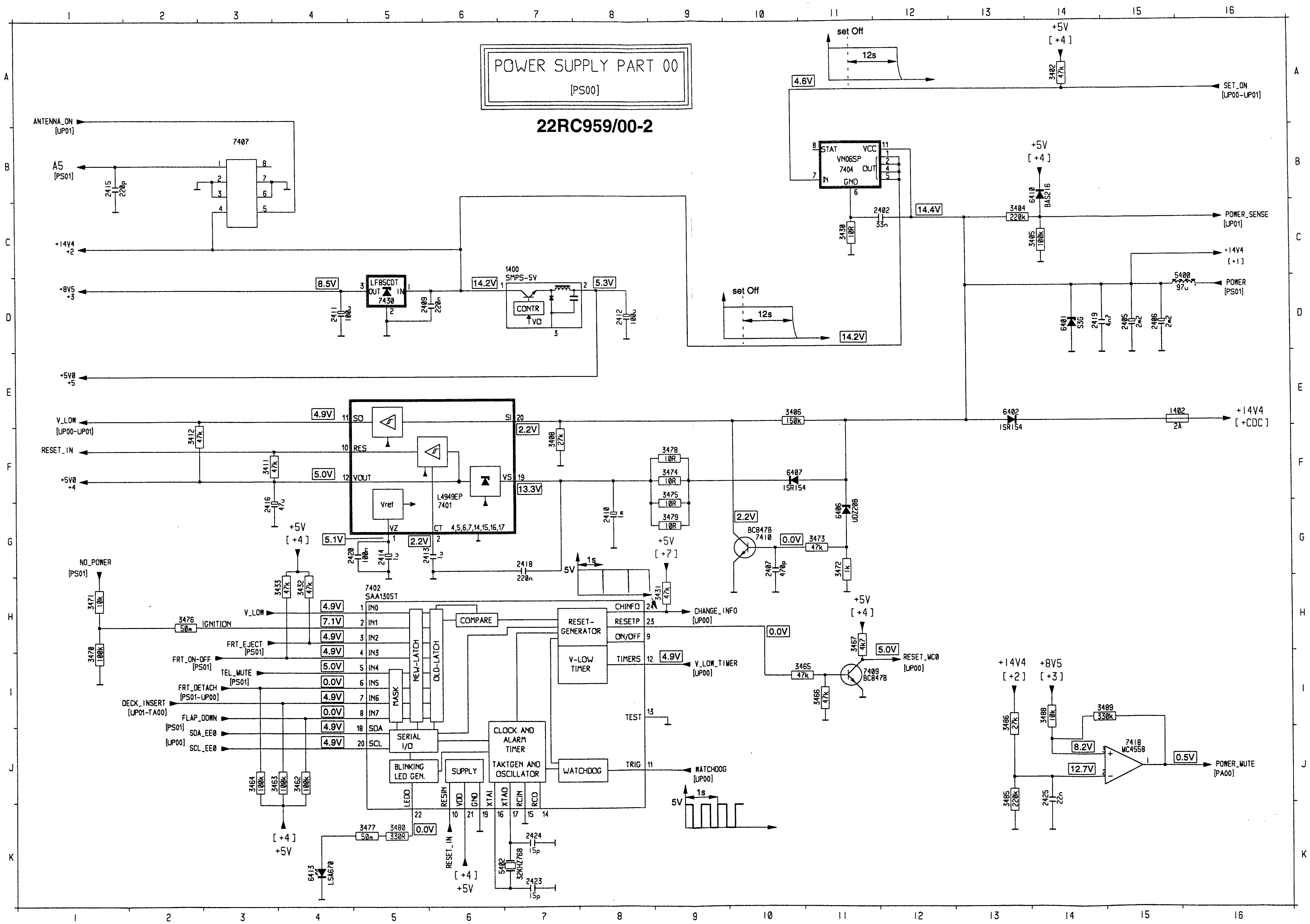
F : Fuse 10A

A5	B1
ANTENNA_ON	A1
CHANGE_INFO	H9
DECK_INSERT	I3
FLAP_DOWN	I3
FRT_DETACH	I3
FRT_EJECT	H3
FRT_ON-OFF	I3
NO_POWER	G1
POWER	D16
POWER_MUTE	J16
POWER_SENSE	C16
RESET_IN	F1/K6
RESET_MC0	I12
SCL_EE0	J3
SDA_EE0	J3
SET_ON	A16
TEL_MUTE	I4
V_LOW	E1/H4
V_LOW_TIMER	I9
WATCHDOG	J9

POWER SUPPLY PART 00

[PS00]

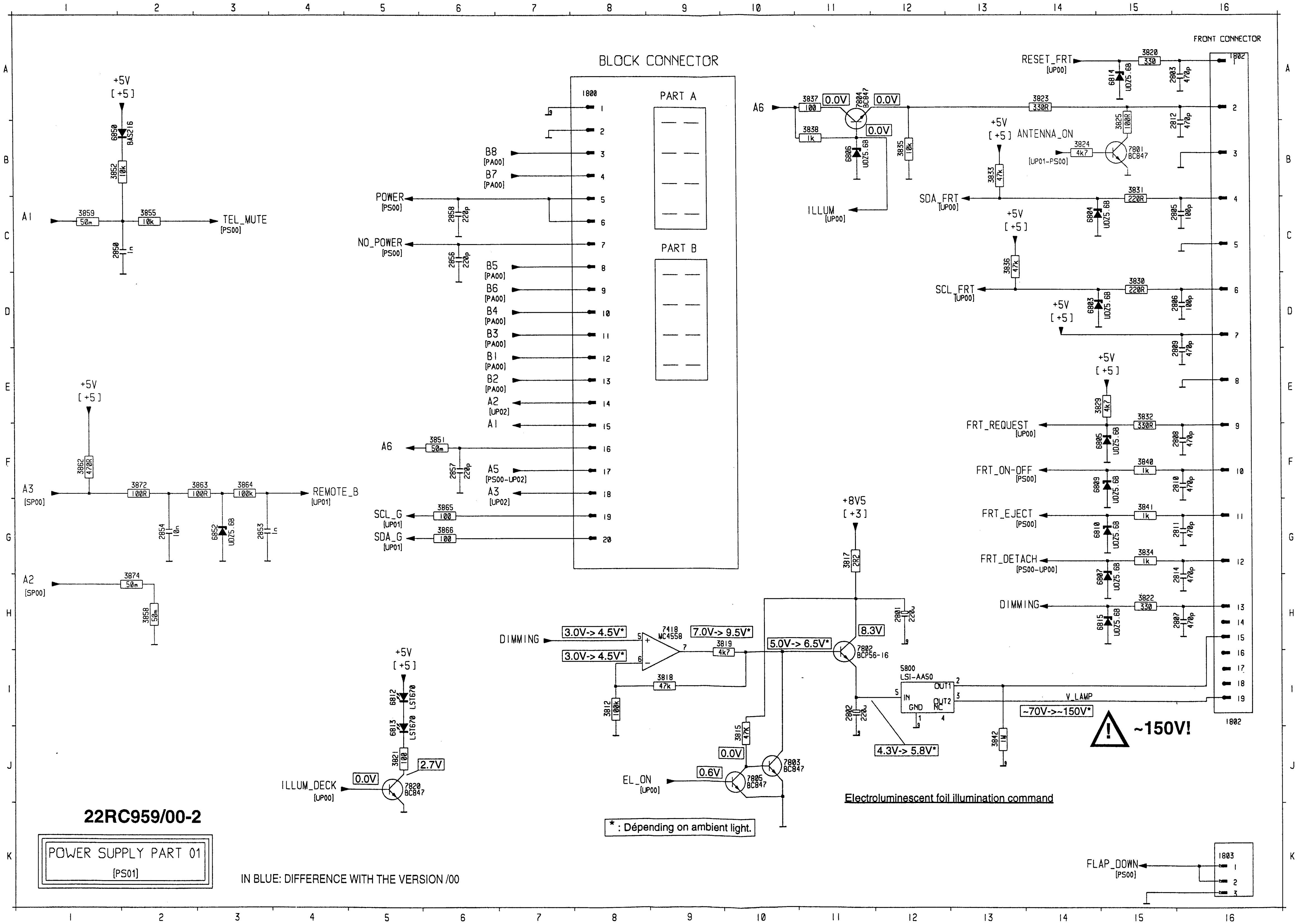
22RC959/00-2



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
ANTENNA_ON [UP01]
A5 [PS01]
2415 220p
7407
+14V4 +2
+8V5 +3
+5V0 +5
8.5V
LF85CDT 7430
OUT IN
2411 100u
2409 220n
14.2V
1400 SMPS-5V
CONTR
VO
5.3V
2412 100u
set Off
12s
4.6V
14.2V
STAT VCC
VN06SP 7404 OUT
IN GND
2402 33n
3430 10R
14.4V
+5V [+4]
3402 47k
SET_ON [UP00-UP01]
6410 BAS216
3404 220k
3405 100k
POWER_SENSE [UP01]
+14V4 [+1]
5400 97u
POWER [PS01]
6401 S3G
2419 4n7
2405 2m2
2406 2m2
V_LOW [UP00-UP01]
RESET_IN
+5V0 +4
4.9V
3412 47k
3411 47k
5.0V
2416 47u
SO
RES
VOUT
SI
VS
Vref
L4949EP 7401
VZ
CT 4,5,6,7,14,15,16,17
2.2V
3408 27k
13.3V
5.1V
2420 100n
2414 100u
2413 2.2V
2418 220n
2410 1u
3478 10R
3474 10R
3475 10R
3479 10R
3406 150k
6407 1SR154
6406 UDZ20B
2.2V
BC847B 7410
0.0V
3473 47k
2407 470p
3472 1k
6402 1SR154
1402 2A
+14V4 [+CDC]
+5V [+7]
3431 47k
5V
1s
NO_POWER [PS01]
3471 10k
3470 100k
3476 50m
IGNITION
V_LOW
FRT_EJECT [PS01]
FRT_ON-OFF [PS01]
TEL_MUTE [PS01]
FRT_DETACH [PS01]
DECK_INSERT [UP01-TA00]
FLAP_DOWN [PS01]
SDA_EE0 [UP00]
SCL_EE0
3433 47k
3432 47k
7402 SAA1305T
4.9V
7.1V
4.9V
4.9V
5.0V
0.0V
4.9V
0.0V
4.9V
4.9V
IN0
IN1
IN2
IN3
IN4
IN5
IN6
IN7
SDA
SCL
MASK
NEW-LATCH
OLD-LATCH
COMPARE
SERIAL I/O
BLINKING LED GEN.
SUPPLY
CLOCK AND ALARM TIMER
TAKTGEN AND OSCILLATOR
RESET-GENERATOR
V-LOW TIMER
WATCHDOG
CHINFO
RESETP
ON/OFF
TIMERS
TEST
TRIG
LEDO
RESIN
VDD
GND
XTAI
XTAO
RCIN
RCO
CHANGE_INFO [UP00]
0.0V
4.9V
V_LOW_TIMER [UP00]
WATCHDOG [UP00]
5V
1s
3464 100k
3463 100k
3462 100k
[+4] +5V
3477 50m
3480 330R
0.0V
6413 LSA670
RESET_IN
[+4] +5V
2424 15p
5402 32K768
2423 15p
+5V [+4]
3467 4k7
5.0V
RESET_MC0 [UP00]
3465 47k
3466 47k
7409 BC847B
+14V4 [+2]
+8V5 [+3]
3486 27k
3488 10k
3489 330k
8.2V
7418 MC4558
12.7V
0.5V
POWER_MUTE [PA00]
3485 220k
2425 22n

1400	C 7
1402	E15
2402	C12
2405	D15
2406	D15
2407	G10
2409	D 6
2410	G 8
2411	D 4
2412	D 8
2413	G 6
2414	G 5
2415	B 1
2416	G 3
2418	G 7
2419	D14
2420	G 5
2423	K 7
2424	K 7
2425	J14
3402	A14
3404	C13
3405	C14
3406	E10
3408	F 7
3411	F 3
3412	F 2
3430	C11
3431	H 9
3432	H 4
3433	H 4
3462	J 4
3463	J 4
3464	J 4
3465	I10
3466	I11
3467	H11
3470	I 1
3471	H 1
3472	G11
3473	G11
3474	F 9
3475	F 9
3476	H 2
3477	K 5
3478	F 9
3479	G 9
3480	K 5
3485	J13
3486	I13
3488	I14
3489	I14
5400	D16
5402	K 6
6401	D14
6402	E13
6406	G11
6407	F10
6410	B14
6413	K 4
7401	G 6
7402	H 5
7404	B11
7407	B 3
7409	I11
7410	G10
7418	J15
7430	D 5

A1 .... C1/F7	B1 .... E7	B7 .... B7	FRT_EJECT G14	POWER C5	SDA_G G5
A2 .... E7/H1	B2 .... E7	B8 .... B7	FRT_ON-OFF F14	REMOTE_B F4	TEL_MUTE C3
A3 .... F7	B3 .... D7	DIMMING H14/H7	FRT_REQUEST F14	RESET_FRT A14	
A5 .... F7/F1	B4 .... D7	EL_ON J9	ILLUM C11	SCL_FRT D13	
A6 .... A10/F5	B5 .... C7	FLAP_DOWN K15	ILLUM_DECK J5	SCL_G G5	
ANTENNA_ON B14	B6 .... D7	FRT_DETACH G14	NO_POWER C5	SDA_FRT C13	



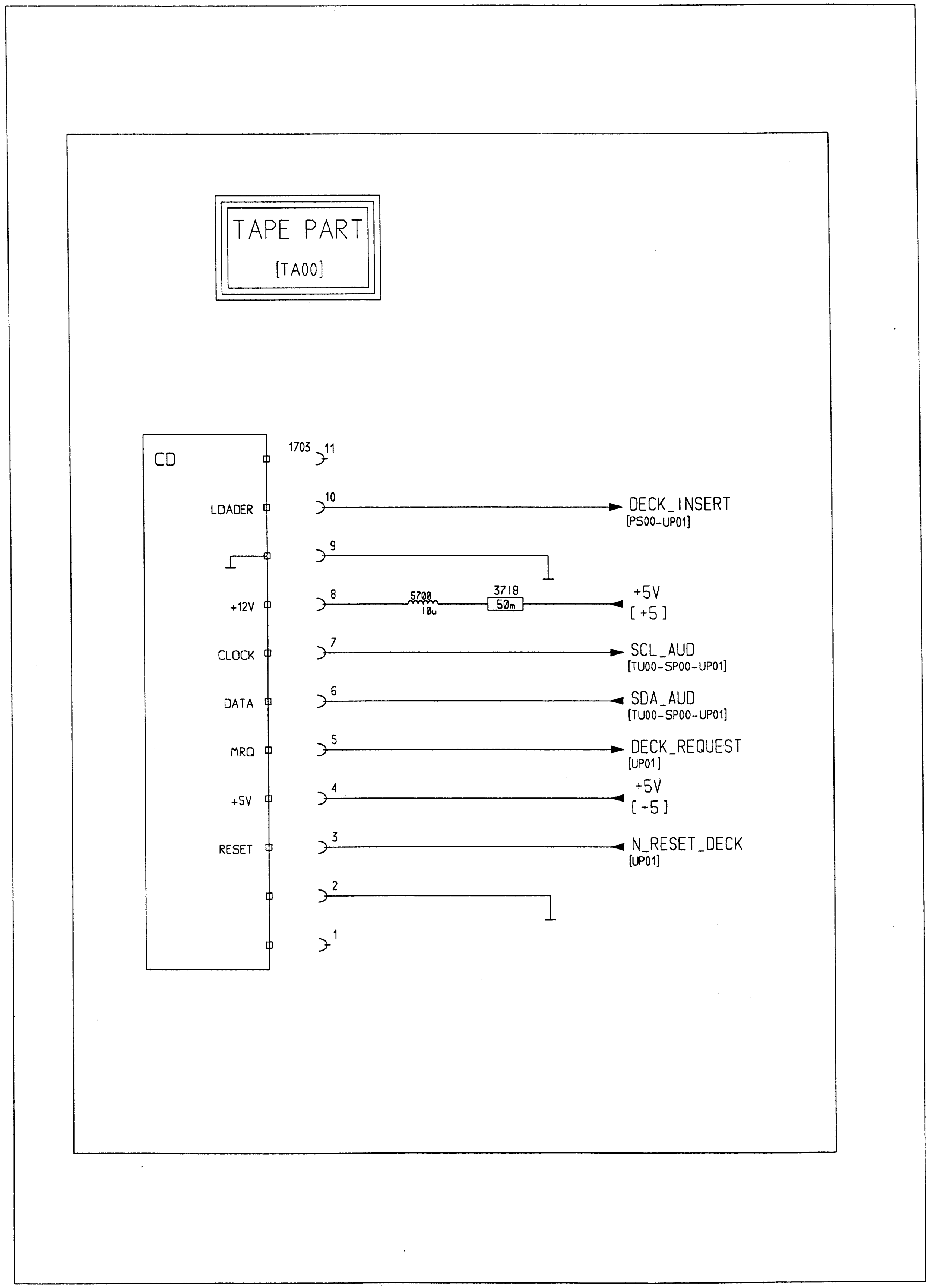
BLOCK CONNECTOR
PART A
PART B
1800
FRONT CONNECTOR
1802
1803
+5V [+5]
6850 BAS216
3852 10k
A1
3859 50m
3855 10k
TEL_MUTE [PS00]
2850 1n
+5V [+5]
3862 470R
A3 [SP00]
3872 100R
3863 100R
3864 100k
REMOTE_B [UP01]
2854 10n
6852 UDZ5.6B
2853 1n
A2 [SP00]
3874 50m
3858 50m
B8 [PA00]
B7 [PA00]
POWER [PS00]
2858 220p
NO_POWER [PS00]
2856 220p
B5 [PA00]
B6 [PA00]
B4 [PA00]
B3 [PA00]
B1 [PA00]
B2 [PA00]
A2 [UP02]
A1
A6
3851 50m
2857 220p
A5 [PS00-UP02]
A3 [UP02]
SCL_G [UP01]
3865 100
SDA_G [UP01]
3866 100
A6
3837 100
0.0V
7804 BC847
0.0V
0.0V
3838 1k
6806 UDZ5.6B
3835 10k
ILLUM [UP00]
RESET_FRT [UP00]
3820 330
6814 UDZ5.6B
2803 470p
3823 330R
3825 100R
2812 470p
+5V [+5] ANTENNA_ON
3824 4k7
[UP01-PS00]
7801 BC847
3833 47k
SDA_FRT [UP00]
3831 220R
6804 UDZ5.6B
2805 100p
+5V [+5]
3836 47k
SCL_FRT [UP00]
3830 220R
6803 UDZ5.6B
2806 100p
+5V [+5]
2809 470p
+5V [+5]
3829 4k7
FRT_REQUEST [UP00]
3832 330R
6805 UDZ5.6B
2808 470p
FRT_ON-OFF [PS00]
3840 1k
6809 UDZ5.6B
2810 470p
FRT_EJECT [PS00]
3841 1k
6810 UDZ5.6B
2811 470p
FRT_DETACH [PS00-UP00]
3834 1k
6807 UDZ5.6B
2814 470p
DIMMING
3822 330
6815 UDZ5.6B
2807 470p
+8V5 [+3]
3817 2R2
2801 220u
8.3V
DIMMING
3.0V-> 4.5V*
3.0V-> 4.5V*
7418 MC4558
7.0V-> 9.5V*
3819 4k7
5.0V-> 6.5V*
7802 BCP56-16
3818 47k
3812 100k
5800 LSI-AA50
IN OUT1 OUT2 GND RC
V_LAMP
-70V->~150V*
2802 220u
4.3V-> 5.8V*
3842 1M
~150V!
3815 47k
0.0V
7803 BC847
EL_ON [UP00]
0.6V
7805 BC847
*: Depending on ambient light.
Electroluminescent foil illumination command
+5V [+5]
6812 LST670
6813 LST670
3821 100
2.7V
ILLUM_DECK [UP00]
0.0V
7820 BC847
FLAP_DOWN [PS00]

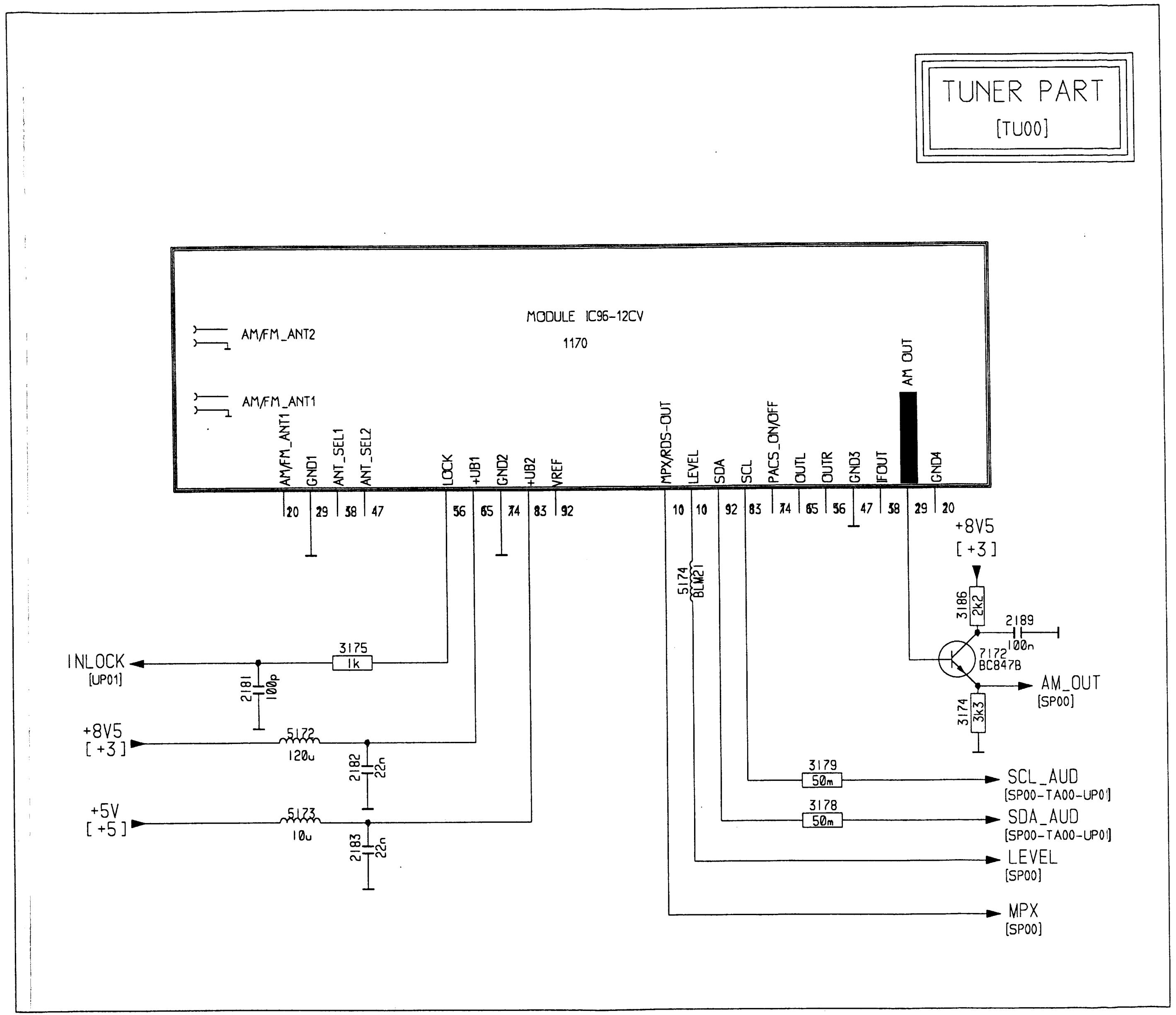
22RC959/00-2

POWER SUPPLY PART 01
[PS01]

IN BLUE: DIFFERENCE WITH THE VERSION /00

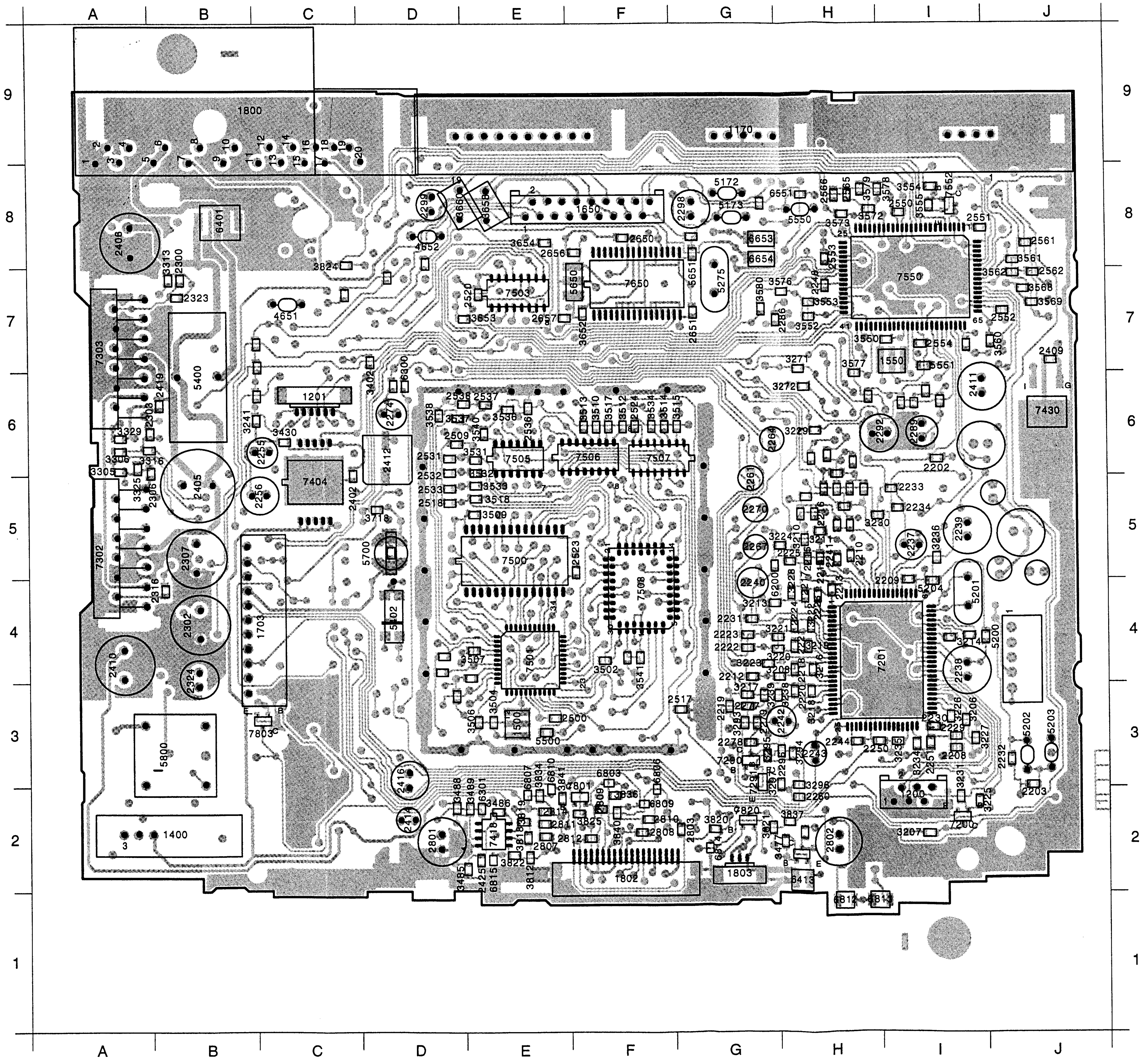
1800	A 8	6852	G 3
1802	I 16	7418	H 9
1803	K16	7801	B15
2801	H12	7802	I 11
2802	I 11	7803	J11
2803	A16	7804	A11
2805	C16	7805	J10
2806	D16	7820	J 5
2807	H16		
2808	F16		
2809	E16		
2810	F16		
2811	G16		
2812	B16		
2814	H16		
2850	C 1		
2853	G 3		
2854	G 2		
2856	C 6		
2857	F 6		
2858	C 6		
3812	I 8		
3815	I 10		
3817	G11		
3818	I 9		
3819	H10		
3820	A15		
3821	J 5		
3822	H15		
3823	A14		
3824	B14		
3825	B15		
3829	E15		
3830	D15		
3831	B15		
3832	E15		
3833	B13		
3834	G15		
3835	B12		
3836	C13		
3837	A11		
3838	B11		
3840	F15		
3841	G15		
3842	J13		
3851	F 6		
3852	B 1		
3855	C 2		
3858	H 2		
3859	C 1		
3862	F 1		
3863	F 3		
3864	F 3		
3865	G 6		
3866	G 6		
3872	F 2		
3874	H 2		
5800	I 12		
6803	D15		
6804	C15		
6805	F15		
6806	B11		
6807	H15		
6809	F15		
6810	G15		
6812	I 5		
6813	J 5		
6814	A15		
6815	H15		
6850	B 1		


TAPE PART
[TA00]
CD
1703
11
LOADER
10
DECK_INSERT
[PS00-UP01]
9
+12V
8
5700
10u
3718
50m
+5V
[+5]
CLOCK
7
SCL_AUD
[TU00-SP00-UP01]
DATA
6
SDA_AUD
[TU00-SP00-UP01]
MRQ
5
DECK_REQUEST
[UP01]
+5V
4
+5V
[+5]
RESET
3
N_RESET_DECK
[UP01]
2
1


TUNER PART
[TU00]
MODULE IC96-12CV
1170
AM/FM_ANT2
AM/FM_ANT1
AM/FM_ANT1
GND1
ANT_SEL1
ANT_SEL2
LOCK
+UB1
GND2
+UB2
VREF
MPX/RDS-OUT
LEVEL
SDA
SCL
PACS_ON/OFF
OUTL
OUTR
GND3
IFOUT
AM OUT
GND4
20
29
38
47
56
65
74
83
92
10
10
92
83
74
65
56
47
38
29
20
INLOCK
[UP01]
3175
1k
2181
100p
+8V5
[+3]
5172
120u
2182
22n
+5V
[+5]
5173
10u
2183
22n
5174
BLM21
+8V5
[+3]
3186
2k2
2189
100n
7172
BC847B
AM_OUT
[SP00]
3174
3k3
3179
50m
SCL_AUD
[SP00-TA00-UP01]
3178
50m
SDA_AUD
[SP00-TA00-UP01]
LEVEL
[SP00]
MPX
[SP00]

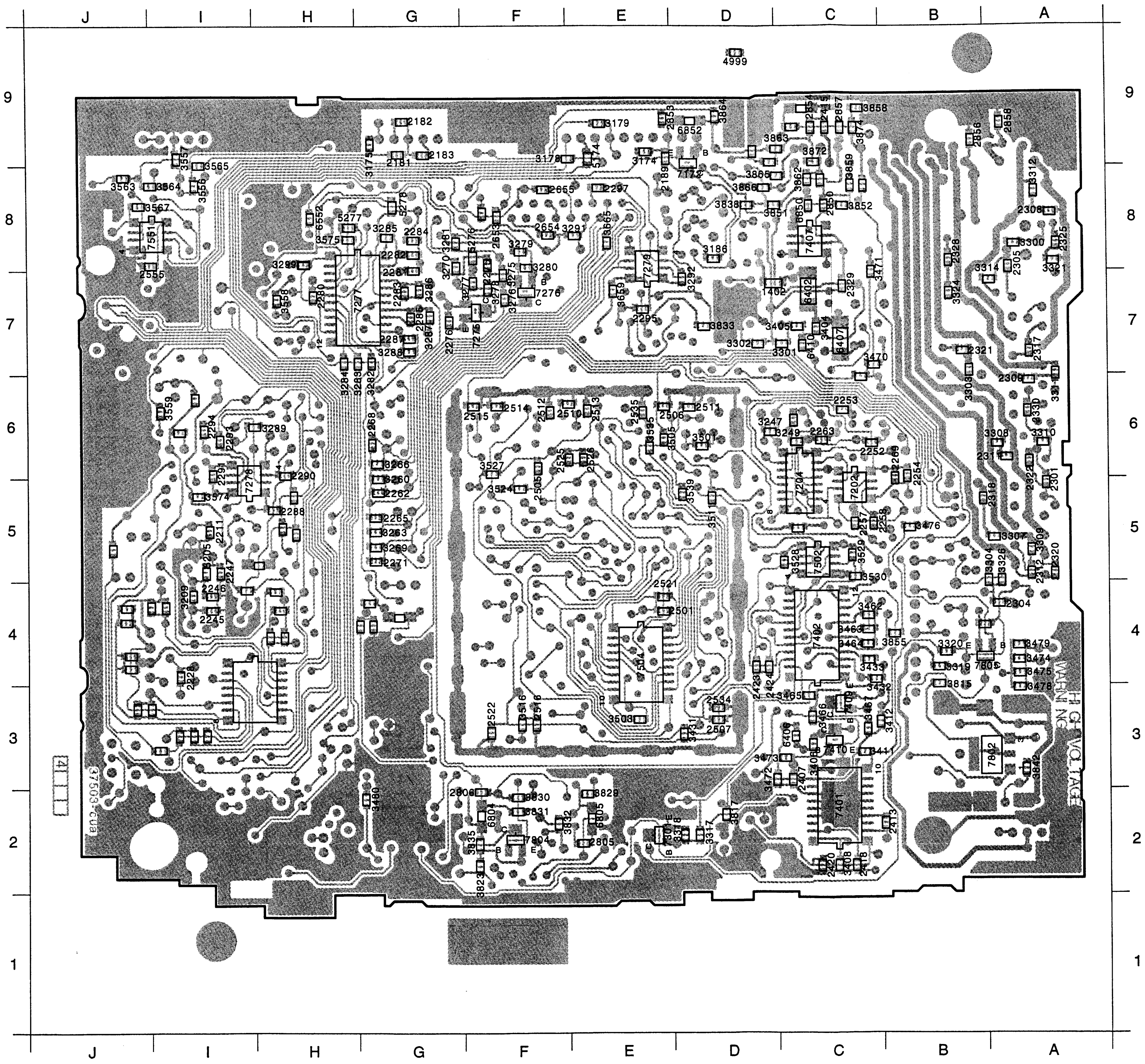
22RC959/00-2

22RC959/00-2 PWB LAYOUT - TOPSIDE VIEW


A
B
C
D
E
F
G
H
I
J
9
8
7
6
5
4
3
2
1
1800
1170
1650
7650
7550
7503
7505
7506
7507
7404
7500
7508
7501
7201
1703
5400
7303
7302
1201
1550
7430
5800
1400
1802
1803
1500
5700
5402
5275
5201
5200
7200
7418
7803
7820
2406
2405
2307
2302
2410
2324
2411
2239
2238
2416
2801
2802

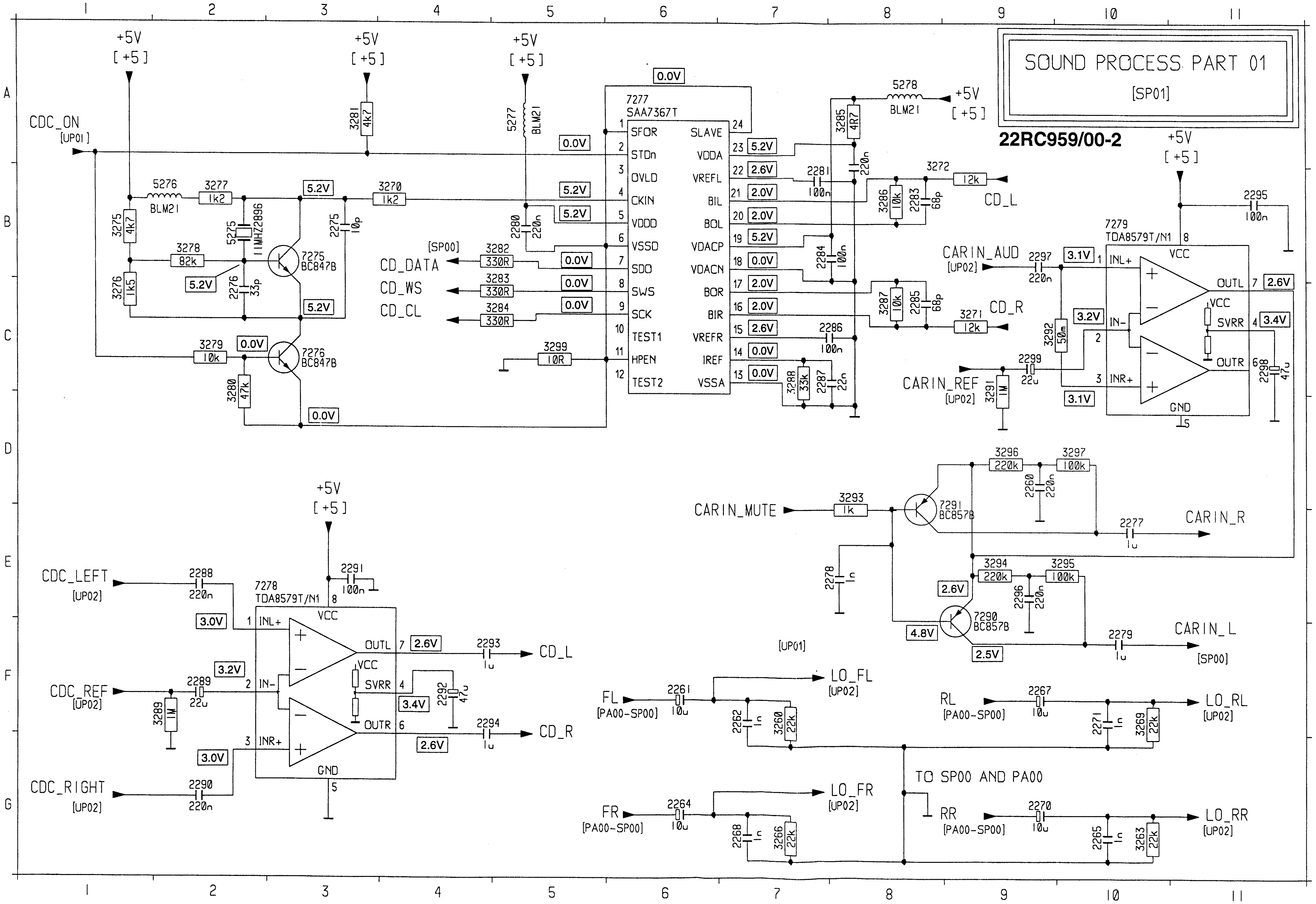
1170	G	8
1200	I	2
1201	C	6
1400	B	1
1500	E	2
1550	I	6
1650	F	7
1703	B	3
1800	B	8
1802	F	1
1803	G	1
2202	I	5
2203	J	2
2208	I	2
2209	I	4
2210	H	4
2212	G	3
2213	H	4
2214	H	4
2215	H	4
2216	H	4
2217	H	4
2218	H	3
2219	G	3
2220	H	3
2221	H	3
2222	G	3
2223	G	3
2224	H	3
2225	H	4
2226	H	4
2229	I	2
2230	I	2
2231	G	3
2232	J	2
2233	I	5
2234	I	5
2237	I	4
2238	I	3
2239	I	4
2240	G	4
2241	H	4
2242	H	2
2243	H	2
2244	H	2
2248	H	7
2250	H	2
2251	I	2
2255	C	5
2256	C	5
2260	H	2
2261	G	5
2264	G	5
2267	G	4
2270	G	4
2274	D	5
2277	G	3
2278	G	2
2279	G	2
2286	G	6
2289	I	5
2292	H	5
2296	H	2
2298	G	7
2299	D	7
2300	B	7
2302	B	3
2303	A	5
2306	A	5
2307	B	4
2316	B	4
2323	B	7
2324	B	3
2402	C	5
2405	B	5
2406	A	7
2409	J	6
2410	A	3
2411	I	6
2412	D	5
2414	D	2
2416	D	2
2419	B	6
2425	E	1
2500	E	2
2509	D	5
2517	G	3
2518	D	5
2520	E	7
2523	F	4
2524	F	5
2531	D	5
2532	D	5
2533	D	5
2536	E	5
2537	E	6
2538	D	6
2550	I	7
2551	I	7
2552	J	6
2553	H	7
2554	I	6
2561	J	7
2562	J	7
2565	H	8
2566	H	8
2650	F	7
2651	G	6
2656	F	7
2657	E	6
2801	D	1
2802	H	1
2803	G	1
2807	E	1
2808	F	1
2809	F	2
2810	F	2
2811	E	1
2812	F	1
2814	E	2
3206	I	2
3207	I	1
3208	G	3
3210	H	4
3211	H	4
3213	G	4
3214	I	3
3216	H	3
3217	G	3
3218	H	3
3219	H	3
3220	G	3
3221	G	3
3222	H	3
3223	G	3
3224	H	4
3225	I	2
3226	I	2
3227	I	2
3228	H	4
3229	H	5
3230	H	4
3231	I	2
3234	I	2
3235	I	2
3236	I	4
3238	G	3
3239	G	3
3241	C	5
3271	H	6
3272	H	6
3293	G	2
3294	H	2
3295	G	2
3296	H	2
3297	H	2
3305	A	5
3306	A	5
3313	B	7
3316	A	5
3325	A	5
3329	A	5
3402	D	6
3430	C	5
3477	H	1
3485	E	1
3486	E	2
3488	D	2
3489	E	2
3502	F	3
3504	E	2
3506	E	2
3507	E	3
3509	E	4
3510	F	5
3512	F	5
3513	F	5
3514	F	5
3515	G	5
3517	F	5
3518	E	5
3531	E	5
3532	E	5
3533	E	5
3534	F	5
3536	E	5
3537	D	5
3538	D	5
3540	E	5
3541	F	3
3550	I	6
3552	H	6
3553	H	6
3554	I	8
3555	I	7
3560	J	6
3561	J	7
3562	J	7
3568	J	7
3569	J	6
3572	H	7
3573	H	7
3576	H	7
3577	H	6
3578	H	8
3579	H	8
3580	G	6
3652	F	6
3653	E	6
3654	E	7
3658	E	7
3660	D	7
3718	D	5
3812	E	1
3818	E	1
3819	E	2
3820	G	1
3821	G	1
3822	E	1
3824	C	7
3825	F	2
3834	E	2
3836	F	2
3837	H	1
3840	F	2
3841	E	2
4651	C	6
4652	D	7
5172	G	8
5173	G	7
5200	I	3
5201	I	4
5202	J	2
5203	J	2
5204	I	4
5275	G	7
5400	B	6
5402	D	3
5500	E	2
5550	H	7
5551	I	6
5650	F	7
5651	G	7
5700	D	4
5800	B	2
6200	G	4
6300	D	6
6301	E	2
6401	B	7
6413	H	1
6551	H	8
6653	G	7
6654	G	7
6803	F	2
6806	F	2
6807	E	2
6809	F	2
6810	E	2
6812	H	1
6813	H	1
6814	G	1
6815	E	1
7200	I	2
7201	H	3
7290	G	2
7291	G	2
7302	A	4
7303	A	6
7404	C	5
7418	E	1
7430	J	5
7500	E	4
7501	E	3
7503	E	7
7505	E	5
7506	F	5
7507	F	5
7508	F	4
7550	I	7
7552	I	7
7650	F	7
7801	F	2
7803	C	2
7820	G	2

22RC959/00-2 PWB LAYOUT -BOTTOMSIDE VIEW



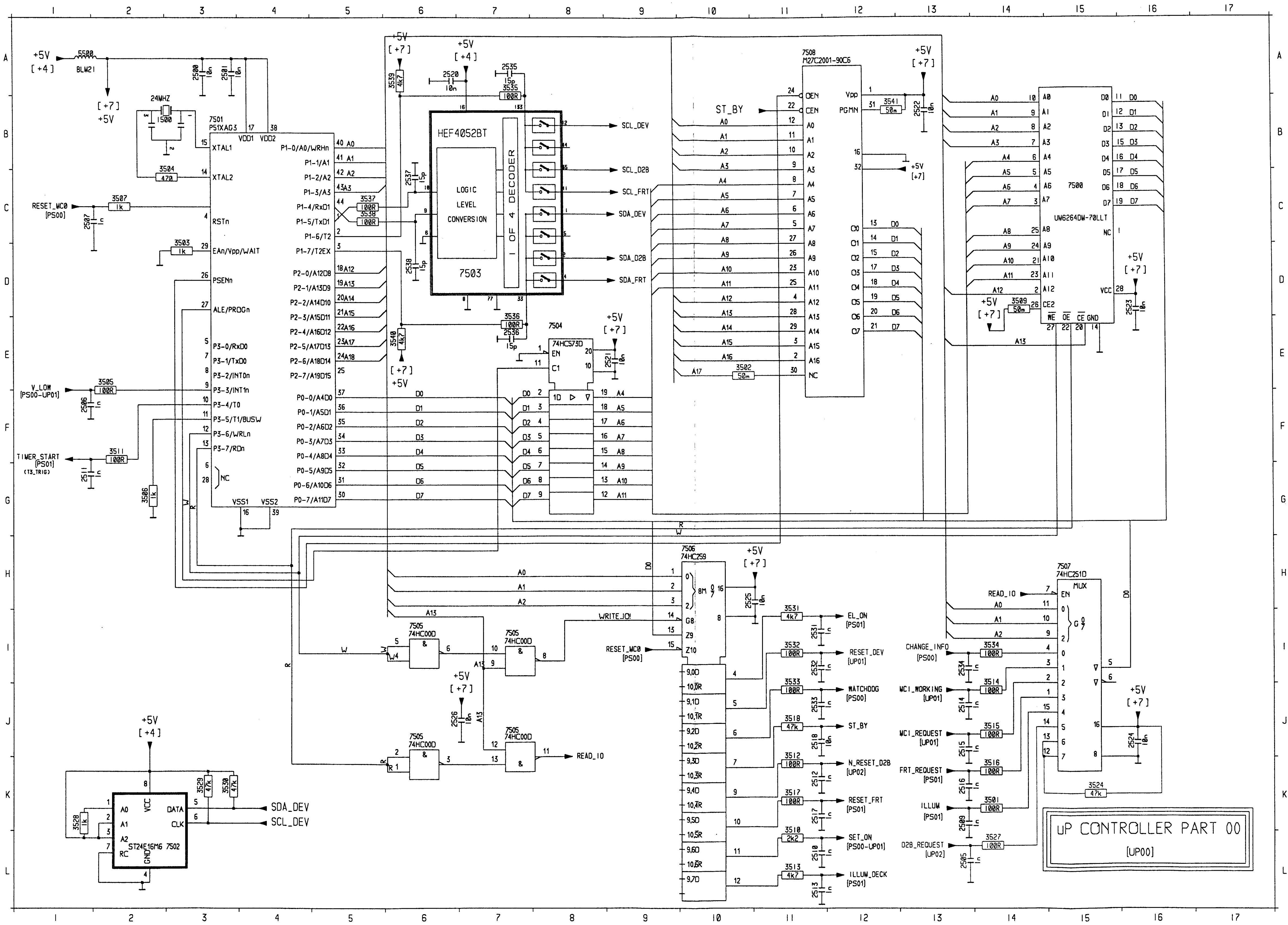
1402	D	7
2181	G	8
2182	G	8
2183	G	8
2189	E	8
2211	I	4
2228	I	3
2245	I	4
2246	I	4
2247	I	4
2252	C	5
2253	C	5
2254	B	5
2257	C	4
2258	C	4
2262	H	5
2263	C	5
2265	H	4
2268	H	5
2269	C	5
2271	H	4
2275	F	7
2276	G	6
2280	H	7
2281	G	7
2282	G	7
2283	G	7
2284	G	7
2285	G	6
2287	G	6
2288	I	5
2290	H	5
2291	I	5
2293	I	5
2294	I	5
2295	E	6
2297	E	8
2301	A	5
2304	B	4
2305	A	7
2308	A	7
2309	A	6
2311	B	5
2312	A	4
2317	A	6
2318	B	5
2320	A	4
2321	B	6
2322	A	5
2325	A	7
2328	B	7
2329	C	7
2330	A	5
2407	D	2
2413	C	1
2415	C	8
2418	C	1
2420	C	1
2423	D	3
2424	D	3
2501	E	4
2505	F	5
2506	E	6
2507	D	2
2510	F	6
2511	E	6
2512	F	5
2513	F	5
2514	F	6
2515	G	6
2516	F	2
2521	E	4
2522	F	2
2525	F	5
2526	F	5
2534	D	3
2535	E	5
2555	J	7
2653	F	7
2654	F	7
2655	F	8
2805	F	1
2806	G	2
2850	C	7
2853	E	8
2854	C	8
2856	B	8
2857	C	8
2858	B	8
3174	E	8
3175	H	8
3178	F	8
3179	E	8
3186	D	7
3209	I	4
3247	D	5
3249	D	5
3260	H	5
3263	H	4
3266	H	5
3269	H	4
3270	G	7
3275	F	7
3276	F	7
3277	G	7
3278	F	7
3279	F	7
3280	F	7
3281	G	7
3282	H	6
3283	H	6
3284	H	6
3285	G	7
3286	G	7
3287	G	6
3288	G	6
3289	I	5
3291	F	7
3292	E	7
3299	H	7
3300	A	7
3301	D	6
3302	D	6
3303	B	6
3304	B	4
3307	B	4
3308	B	5
3309	A	4
3310	A	5
3311	A	6
3312	A	8
3314	B	7
3317	D	1
3318	E	1
3319	B	3
3320	B	3
3321	A	7
3324	B	7
3326	B	4
3404	C	6
3405	D	6
3406	C	2
3408	C	1
3411	C	2
3412	C	2
3431	E	2
3432	C	3
3433	C	3
3462	C	3
3463	C	3
3464	C	3
3465	C	3
3466	C	3
3467	C	2
3470	C	6
3471	C	7
3472	D	2
3473	D	2
3474	A	3
3475	A	3
3476	B	4
3478	A	3
3479	A	3
3480	H	2
3501	D	5
3503	E	2
3505	E	5
3511	D	5
3516	F	2
3524	F	5
3527	F	5
3528	D	4
3529	C	4
3530	C	4
3535	E	5
3539	E	5
3556	I	8
3557	I	8
3558	H	7
3559	J	5
3563	J	8
3564	J	8
3565	I	8
3567	J	7
3574	I	5
3575	H	7
3659	E	7
3665	E	7
3815	B	3
3817	D	2
3823	G	1
3829	F	2
3830	F	2
3831	F	2
3832	F	1
3833	D	6
3835	G	1
3838	D	7
3842	A	2
3851	D	7
3852	C	7
3855	C	3
3858	C	8
3859	C	8
3862	C	8
3863	D	8
3864	D	8
3865	D	8
3866	D	8
3872	C	8
3874	C	8
4999	D	9
5174	F	8
5205	I	4
5276	G	7
5277	H	7
5278	G	7
6402	C	7
6406	D	2
6407	C	6
6410	C	6
6552	H	7
6804	G	2
6805	F	2
6850	C	7
6852	E	8
7172	E	8
7202	C	5
7204	D	5
7275	G	6
7276	F	7
7277	H	7
7278	I	5
7279	E	7
7301	E	1
7401	C	2
7402	C	3
7407	C	7
7409	C	3
7410	C	2
7502	C	4
7504	E	3
7551	J	7
7802	B	2
7804	F	1
7805	B	3

CARIN_AUD	C9	CDC_ON	A1	CD_R	C9/F5	LO_RL	F11
CARIN_L	F11	CDC_REF	F1	CD_WS	C4	LO_RR	G11
CARIN_MUTE	F7	CDC_RIGHT	G1	FL	F6	RL	F9
CARIN_R	E11	CD_CL	C4	FR	G6	RR	G9
CARIN_REF	D8	CD_DATA	B4	LO_FL	F7		
CDC_LEFT	E1	CD_L	B9/F5	LO_FR	G7		


SOUND PROCESS PART 01
[SP01]
22RC959/00-2
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
+5V
[+5]
CDC_ON
[UP01]
5276
BLM21
3277
1k2
3275
4k7
3278
82k
3276
1k5
5275
11MHZ2896
2276
33p
7275
BC847B
3279
10k
7276
BC847B
3280
47k
3281
4k7
2275
10p
3270
1k2
5277
BLM21
2280
220n
[SP00]
CD_DATA
CD_WS
CD_CL
3282
330R
3283
330R
3284
330R
3299
10R
5.2V
0.0V
2.0V
2.6V
7277
SAA7367T
SFOR
STDn
OVLD
CKIN
VDDD
VSSD
SDO
SWS
SCK
TEST1
HPEN
TEST2
SLAVE
VDDA
VREFL
BIL
BOL
VDACP
VDACN
BOR
BIR
VREFR
IREF
VSSA
3285
4R7
5278
BLM21
2282
220n
2281
100n
2284
100n
2286
100n
3286
10k
2283
68p
3287
10k
2285
68p
3288
33k
2287
22n
3272
12k
CD_L
3271
12k
CD_R
CARIN_AUD
[UP02]
2297
220n
CARIN_REF
[UP02]
3291
1M
2299
22u
3292
50m
7279
TDA8579T/N1
INL+
IN-
INR+
VCC
OUTL
SVRR
OUTR
GND
2295
100n
2298
47u
3.1V
3.2V
3.4V
CARIN_MUTE
3293
1k
7291
BC857B
3296
220k
3297
100k
2260
220n
2277
1u
CARIN_R
2278
1n
3294
220k
3295
100k
2296
220n
7290
BC857B
2279
1u
CARIN_L
[SP00]
4.8V
2.5V
CDC_LEFT
[UP02]
2288
220n
CDC_REF
[UP02]
2289
22u
3289
1M
CDC_RIGHT
[UP02]
2290
220n
7278
TDA8579T/N1
2291
100n
3.0V
2292
47u
2293
1u
2294
1u
[UP01]
FL
[PA00-SP00]
2261
10u
2262
1n
3260
22k
LO_FL
[UP02]
FR
[PA00-SP00]
2264
10u
2268
1n
3266
22k
LO_FR
[UP02]
TO SP00 AND PA00
RL
[PA00-SP00]
2267
10u
2271
1n
3269
22k
LO_RL
[UP02]
RR
[PA00-SP00]
2270
10u
2265
1n
3263
22k
LO_RR
[UP02]

2260	D 8	3272	B 8
2261	F 6	3275	B 1
2262	F 7	3276	C 1
2264	G 6	3277	B 2
2265	G10	3278	B 2
2267	F 9	3279	C 2
2268	G 7	3280	C 2
2270	G 9	3281	A 3
2271	F10	3282	B 5
2275	B 3	3283	C 5
2276	C 2	3284	C 5
2277	E 9	3285	A 7
2278	E 6	3286	B 8
2279	F 9	3287	C 8
2280	B 5	3288	C 7
2281	B 7	3289	F 2
2282	A 7	3291	C 9
2283	B 8	3292	C 9
2284	B 7	3293	D 6
2285	C 8	3294	E 8
2286	C 7	3295	E 9
2287	C 7	3296	D 8
2288	E 2	3297	D 9
2289	F 2	3299	C 5
2290	G 2	5275	B 2
2291	E 3	5276	B 2
2292	F 4	5277	A 5
2293	F 4	5278	A 8
2294	F 4	7275	B 3
2295	B11	7276	C 3
2296	E 8	7277	A 6
2297	B 9	7278	E 2
2298	C11	7279	B10
2299	C 9	7290	E 8
3260	F 7	7291	D 8
3263	G10		
3266	G 7		
3269	F10		
3270	B 4		
3271	C 8		

CHANGE_INFO	I13
D2B_REQUEST	L13
EL_ON	I12
FRT_REQUEST	K13
ILLUM	K13
ILLUM_DECK	L12
MCI_REQUEST	J13
MCI_WORKING	J13
N_RESET_D2B	K12
READ_IO	H14/J8
RESET_DEV	I12
RESET_FRT	K12
RESET_MC0	C1/I9
SCL_D2B	B9
SCL_DEV	B9
SCL_EE0	B9/K4
SCL_FRT	C9
SDA_D2B	D9
SDA_DEV	C9
SDA_EE0	C9/K4
SDA_FRT	D9
SET_ON	L12
ST_BY	B11/J12
TIMER_START	F1
V_LOW	E1
WATCHDOG	J12


uP CONTROLLER PART 00
[UP00]
7501 P51XAG3
7503 HEF4052BT
LOGIC LEVEL CONVERSION
1 OF 4 DECODER
7504 74HC573D
7508 M27C2001-90C6
7500 UM6264DM-70LLT
7506 74HC259
7507 74HC251D
7505 74HC00D
7502 ST24E16M6
1500 24MHZ
5500 BLM21
+5V [+4]
+5V [+7]
SCL_DEV
SCL_D2B
SCL_FRT
SDA_DEV
SDA_D2B
SDA_FRT
RESET_MC0 [PS00]
V_LOW [PS00-UP01]
TIMER_START [PS01] (T3_TRIG)
ST_BY
READ_IO
WRITE_IO
EL_ON [PS01]
RESET_DEV [UP01]
WATCHDOG [PS00]
ST_BY
N_RESET_D2B [UP02]
RESET_FRT [PS01]
SET_ON [PS00-UP01]
ILLUM_DECK [PS01]
CHANGE_INFO [PS00]
MCI_WORKING [UP01]
MCI_REQUEST [UP01]
FRT_REQUEST [PS01]
ILLUM [PS01]
D2B_REQUEST [UP02]
SDA_DEV
SCL_DEV

1500	B 2
2500	A 3
2501	A 3
2505	L13
2506	F 1
2507	C 1
2509	K13
2510	L11
2511	G 1
2512	K11
2513	L11
2514	J13
2515	J13
2516	K13
2517	K11
2518	J11
2520	A 6
2521	E 9
2522	B13
2523	D16
2524	J16
2525	H10
2526	J 6
2531	I11
2532	I11
2533	J11
2534	I13
2535	A 7
2536	E 7
2537	C 6
2538	D 6
3501	K14
3502	E10
3503	D 3
3504	B 3
3505	E 2
3506	G 2
3507	C 2
3509	D14
3510	L11
3511	F 2
3512	K11
3513	L11
3514	J14
3515	J14
3516	K14
3517	K11
3518	J11
3524	K15
3527	L14
3528	K 1
3529	K 3
3530	K 3
3531	I11
3532	I11
3533	J11
3534	I14
3535	A 7
3536	E 7
3537	C 5
3538	C 5
3539	A 6
3540	E 6
3541	B12
5500	A 1
7500	C15
7501	B 3
7502	L 3
7503	D 7
7504	E 8
7505	J 6
7505	I 6
7505	I 7
7505	J 7
7506	H10
7507	H15
7508	A11

ANTENNA_ON F10
CARIN_MUTE H10
CDC_ON...........................I10
CLOCK_RDS...................H10
DATA_RDS F3
DECK_INSERT................G3

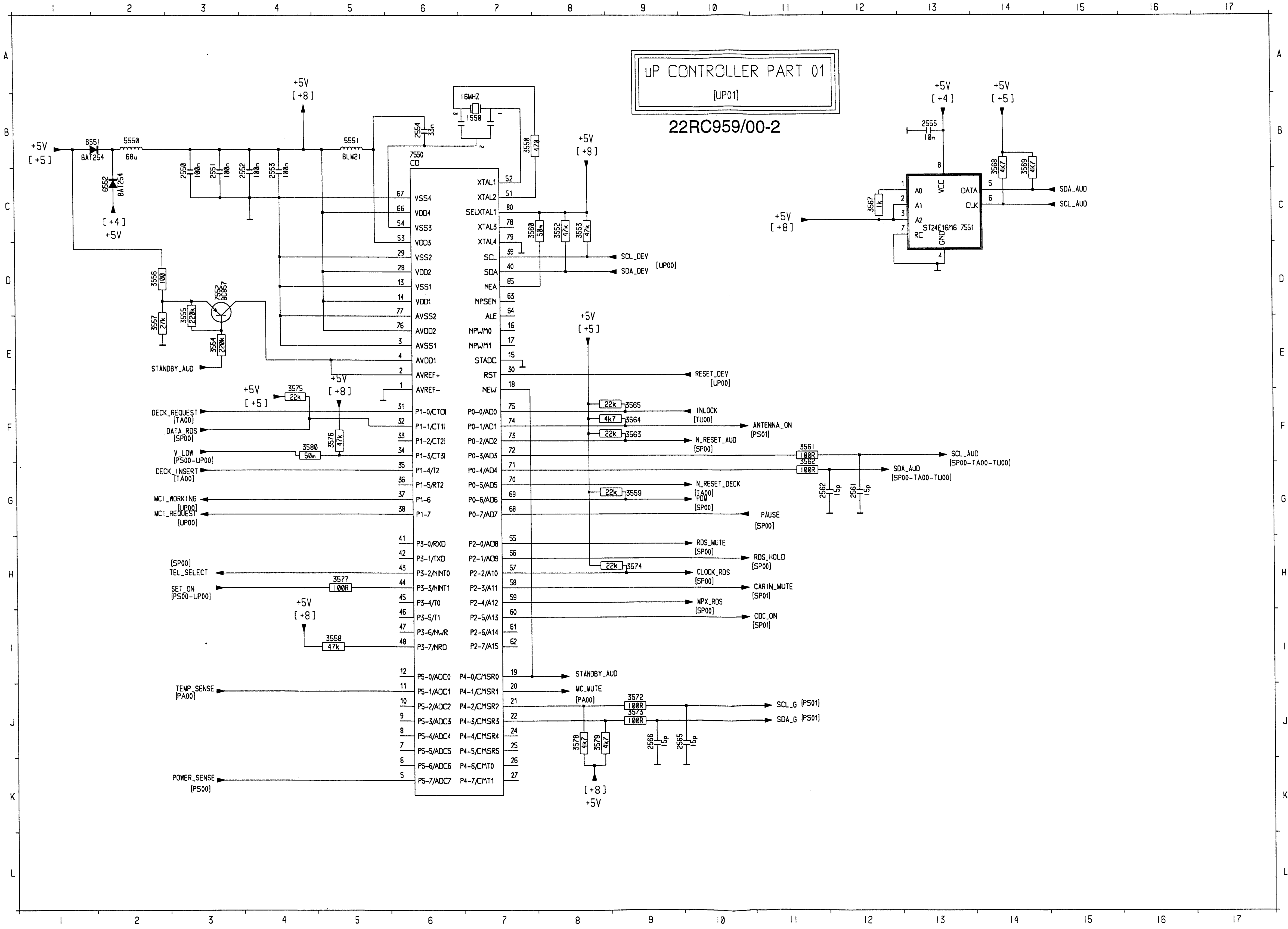
DECK_REQUEST F3
INLOCK F10
MCI_REQUEST G3
MCI_WORKING G3
MC_MUTE.......................J8
MPX_RDS H10

N_RESET_AUD F10
N_RESET_DECK............G10
PAUSE.............................G10
POM G10
POWER_SENSE............K3
RDS_HOLD H10

RDS_MUTE......................H10
REMOTE I3
RESET_DEV E10
SCL_AUD........................C15/F13
SCL_DEV.........................D9
SCL_G.............................J11

SDA_AUD........................C15/G12
SDA_DEV........................D9
SDA_G J11
SET_ON H3
STANDBY_AUD E3/I8
TEL_SELECT H3

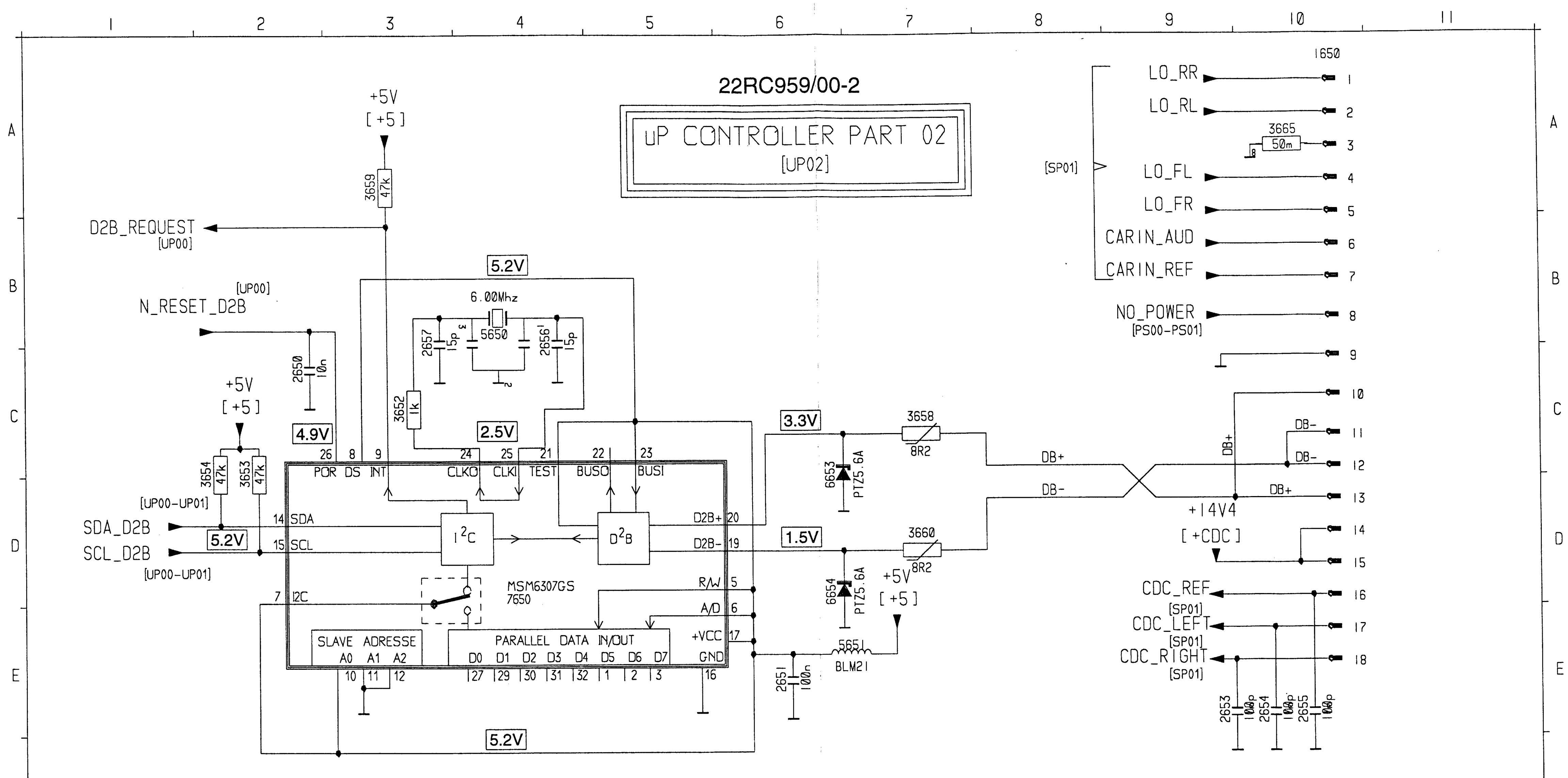
TEMP_SENSE J3
V_LOW.............................F3



uP CONTROLLER PART 01
[UP01]
22RC959/00-2
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
J
K
L
+5V
[+5]
6551
BAT254
5550
68u
6552
BAT254
[+4]
+5V
+5V
[+8]
2550
100n
2551
100n
2552
100n
2553
100n
5551
BLM21
2554
33n
16MHZ
1550
3550
470
7550
CD
XTAL1
XTAL2
SELXTAL1
XTAL3
XTAL4
SCL
SDA
NEA
NPSEN
ALE
NPWM0
NPWM1
STADC
RST
NEW
VSS4
VDD4
VSS3
VDD3
VSS2
VDD2
VSS1
VDD1
AVSS2
AVDD2
AVSS1
AVDD1
AVREF+
AVREF-
P1-0/CT0I
P1-1/CT1I
P1-2/CT2I
P1-3/CT3I
P1-4/T2
P1-5/RT2
P1-6
P1-7
P3-0/RXD
P3-1/TXD
P3-2/NINT0
P3-3/NINT1
P3-4/T0
P3-5/T1
P3-6/NWR
P3-7/NRD
P5-0/ADC0
P5-1/ADC1
P5-2/ADC2
P5-3/ADC3
P5-4/ADC4
P5-5/ADC5
P5-6/ADC6
P5-7/ADC7
P0-0/AD0
P0-1/AD1
P0-2/AD2
P0-3/AD3
P0-4/AD4
P0-5/AD5
P0-6/AD6
P0-7/AD7
P2-0/AD8
P2-1/AD9
P2-2/A10
P2-3/A11
P2-4/A12
P2-5/A13
P2-6/A14
P2-7/A15
P4-0/CMSR0
P4-1/CMSR1
P4-2/CMSR2
P4-3/CMSR3
P4-4/CMSR4
P4-5/CMSR5
P4-6/CMT0
P4-7/CMT1
3556
100
3557
27k
3555
220k
7552
BC857
3554
220k
STANDBY_AUD
3560
50m
3552
47k
3553
47k
SCL_DEV
SDA_DEV
[UP00]
RESET_DEV
[UP00]
+5V
[+5]
3575
22k
DECK_REQUEST
[TA00]
DATA_RDS
[SP00]
V_LOW
[PS00-UP00]
3580
50m
3576
47k
DECK_INSERT
[TA00]
MCI_WORKING
MCI_REQUEST
[UP00]
[SP00]
TEL_SELECT
SET_ON
[PS00-UP00]
3577
100R
3558
47k
TEMP_SENSE
[PA00]
POWER_SENSE
[PS00]
22k 3565
INLOCK
[TU00]
4k7 3564
ANTENNA_ON
[PS01]
22k 3563
N_RESET_AUD
[SP00]
3561
100R
3562
100R
SCL_AUD
[SP00-TA00-TU00]
SDA_AUD
[SP00-TA00-TU00]
2562
15p
2561
15p
N_RESET_DECK
[TA00]
22k 3559
POM
[SP00]
PAUSE
[SP00]
RDS_MUTE
[SP00]
RDS_HOLD
[SP00]
22k 3574
CLOCK_RDS
[SP00]
CARIN_MUTE
[SP01]
MPX_RDS
[SP00]
CDC_ON
[SP01]
STANDBY_AUD
MC_MUTE
[PA00]
3572
100R
3573
100R
SCL_G [PS01]
SDA_G [PS01]
3578
4k7
3579
4k7
2566
15p
2565
15p
[+8]
+5V
+5V
[+4]
+5V
[+5]
2555
10n
3568
4K7
3569
4K7
3567
1k
A0
A1
A2
RC
VCC
GND
DATA
CLK
ST24E16M6 7551
SDA_AUD
SCL_AUD
+5V
[+8]

1550	B	7
2550	C	3
2551	C	3
2552	C	4
2553	C	4
2554	B	6
2555	B	13
2561	G	12
2562	G	11
2565	J	9
2566	J	9
3550	B	7
3552	C	8
3553	C	8
3554	E	3
3555	D	3
3556	D	2
3557	E	2
3558	I	5
3559	G	9
3560	C	7
3561	F	11
3562	G	11
3563	F	9
3564	F	9
3565	F	9
3567	C	12
3568	B	14
3569	B	14
3572	J	9
3573	J	9
3574	H	9
3575	F	4
3576	F	5
3577	H	5
3578	J	8
3579	J	8
3580	F	4
5550	B	2
5551	B	5
6551	B	2
6552	C	2
7550	B	6
7551	C	14
7552	D	3

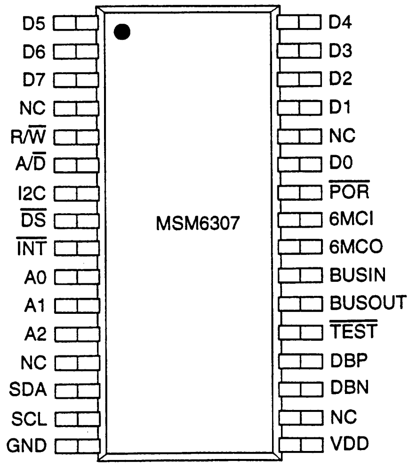
Signal	Position
CARIN_AUD	B9
CARIN_REF	B9
CDC_LEFT	E9
CDC_REF	D9
CDC_RIGHT	E9
D2B_REQUEST	A2
LO_FL	A9
LO_FR	A9
LO_RL	A9
LO_RR	A9
NO_POWER	B9
N_RESET_D2B	B2
SCL_D2B	D1
SDA_D2B	D1


22RC959/00-2
uP CONTROLLER PART 02
[UP02]
1 2 3 4 5 6 7 8 9 10 11
A B C D E
+5V
[+5]
3659 47k
D2B_REQUEST
[UP00]
[UP00]
N_RESET_D2B
2650 10n
5.2V
6.00Mhz
2657 15p
5650
2656 15p
3652 1k
2.5V
4.9V
+5V
[+5]
3654 47k
3653 47k
[UP00-UP01]
SDA_D2B
SCL_D2B
5.2V
[UP00-UP01]
26 POR 8 DS 9 INT
24 CLKO 25 CLKI 21 TEST 22 BUSO 23 BUSI
14 SDA
15 SCL
7 I2C
I²C
D²B
MSM6307GS
7650
D2B+ 20
D2B- 19
R/W 5
A/D 6
+VCC 17
GND 16
SLAVE ADRESSE
A0 A1 A2
10 11 12
PARALLEL DATA IN/OUT
D0 D1 D2 D3 D4 D5 D6 D7
27 29 30 31 32 1 2 3
5.2V
3.3V
6653 PTZ5.6A
3658 8R2
1.5V
3660 8R2
6654 PTZ5.6A
+5V
[+5]
5651
BLM21
2651 100n
DB+
DB-
1650
LO_RR 1
LO_RL 2
3665 50m 3
[SP01]
LO_FL 4
LO_FR 5
CARIN_AUD 6
CARIN_REF 7
NO_POWER 8
[PS00-PS01]
9
10
DB- 11
DB- 12
DB+ 13
DB+
+14V4
[+CDC]
14
15
CDC_REF 16
[SP01]
CDC_LEFT 17
[SP01]
CDC_RIGHT 18
[SP01]
2653 100p
2654 100p
2655 100p

1650	A10
2650	C 2
2651	E 6
2653	E 9
2654	E 9
2655	E10
2656	B 4
2657	B 3
3652	C 3
3653	C 2
3654	C 1
3658	C 6
3659	A 3
3660	D 6
3665	A10
5650	B 3
5651	E 6
6653	C 6
6654	D 6
7650	D 4

MSM6307GS D²B IC

SYMBOL	I/O	DESCRIPTION
POR	I	Power on - reset
R / W	I	Read / Write selector
DS	I	Data strobe to access data bus
A / $\overline{D}$	I	Selects address or data on D0 ~ d7
SDA	I/O	I²C data signal input / output
SCL	I/O	I²C clock signal input / output
I2C	I	Selects I²C or parallel interface
INT	O	Interrupt output
BUSIN	I	D2B input (TTL level)
BUSOUT	O	D2B output (TTL level)
DBN & DBP	I/Os	Differential D2B lines of the internal driver/ receiver, to be terminated with 60Ω
TEST	I	Selects the test mode for factory purposes
6MCI	I	Clock input 6MHz resonator or X-TAL
6MCO	O	Clock output 6MHz resonator or X-TAL
D0 ~ D7	I/Os	8-bit bi-directional address or data bus
A0 ~ A2	I	Programmables I²C slave addresses


D5
D6
D7
NC
R/W
A/D
I2C
DS
INT
A0
A1
A2
NC
SDA
SCL
GND
MSM6307
D4
D3
D2
D1
NC
D0
POR
6MCI
6MCO
BUSIN
BUSOUT
TEST
DBP
DBN
NC
VDD

6 7 8 9 10 11

Miscellaneous		
1170	4822 210 10721	TUNER
1400	4822 218 11862	S.M.P.S. ASSY 5,3V 1,2A
1402	4822 253 30446	2,00A 32V 3,02X1,6X1,2 F
1500	4822 242 10868	CSTCS24.00MX040
1550	4822 242 10564	CSTCS16.00MX040-TC
1800	4822 265 10941	CONN. BLOCK A.B.C. V3

⊣⊢		
2181	5322 122 32531	100pF 5%NP0 50V
2182	5322 122 32654	22nF10%X7R 63V
2183	5322 122 32654	22nF 10%X7R 63V
2189	4822 126 13196	100nF 10% 0805 X7R 25
2202	5322 122 34123	1nF 10%X7R 50V
2203	4822 126 13196	100nF 10% 0805 X7R
2208	5322 122 32531	100pF 5%NP0 50V
2209	4822 126 12105	33nF 5%X7R 63V
2210	5322 122 32654	22nF 10%X7R 63V
2211	4822 126 13196	100nF 10% 0805 X7R
2212	5322 122 34098	10nF 10%X7R 63V
2213	5322 122 34098	10nF 10%X7R 63V
2214	5322 122 31863	330pF 5%NP0 50V
2215	5322 122 33538	150pF 2%NP0 63V
2216	5322 122 31863	330pF 5%NP0 50V
2217	5322 122 34123	1nF 10%X7R 50V
2218	5322 122 34123	1nF 10%X7R 50V
2219	5322 122 34098	10nF 10%X7R 63V
2220	5322 122 34123	1nF 10%X7R 50V
2221	5322 122 34123	1nF 10%X7R 50V
2222	5322 122 34098	10nF 10%X7R 63V
2223	5322 122 34098	10nF 10%X7R 63V
2224	5322 122 34123	1nF 10%X7R 50V
2225	4822 126 13196	100nF 10% 0805 X7R 25V
2226	5322 122 34123	1nF 10%X7R 50V
2228	4822 126 13196	100nF 10% 0805 X7R 25V
2229	5322 122 32531	100pF 5%NP0 50V
2230	5322 122 32531	100pF 5%NP0 50V
2231	4822 126 13196	100nF 10% 0805 X7R 25V
2232	4822 126 13196	100nF 10% 0805 X7R 25V
2233	5322 122 31863	330pF 5%NP0 50V
2234	5322 122 31863	330pF 5%NP0 50V
2237	4822 124 23279	22µF 20% 16V
2238	4822 124 23582	220µF 10V
2239	4822 124 11952	100µF 20% 16V
2240	4822 124 23279	22µF 20% 16V
2241	4822 126 14043	1µF +80-20% 16V
2242	4822 124 23279	22µF 20% 16V
2243	4822 124 23282	1µF 20% 50V
2244	5322 122 34123	1nF 10%X7R 50V
2245	5322 122 32269	6,8pF 5% 50V
2246	5322 122 32269	6,8pF 5% 50V
2247	5322 122 34123	1nF 10%X7R 50V
2248	4822 122 33575	220pF 5%NPO 50V
2250	5322 122 32531	100pF 5%NP0 50V
2251	5322 122 32531	100pF 5%NP0 50V
2252	4822 126 13849	220nF 10% 16V
2253	4822 126 13849	220nF 10% 16V
2254	4822 126 13196	100nF 10% 0805 X7R 25V
2255	4822 124 23279	22µF 20% 16V
2256	4822 124 22646	47µF 20% 16V
2257	4822 126 14043	1µF +80-20% 16V
2258	4822 126 14043	1µF +80-20% 16V
2260	4822 126 13849	220nF 10% 16V
2261	4822 124 41017	10µF 16V
2262	5322 122 34123	1nF 10%X7R 50V
2263	4822 126 13849	220nF 10% 16V
2264	4822 124 41017	10µF 16V
2265	5322 122 34123	1nF 10%X7R 50V
2267	4822 124 41017	10µF 16V
2268	5322 122 34123	1nF 10%X7R 50V
2269	5322 122 34123	1nF 10%X7R 50V
2270	4822 124 41017	10µF 16V
2271	5322 122 34123	1nF 10%X7R 50V
2274	4822 124 23279	22µF 20% 16V
2275	5322 122 32448	10pF 5% 50V
2276	5322 122 32659	33pF 5% 50V
2277	4822 126 14043	1µF +80-20% 16V
2278	5322 122 34123	1nF 10%X7R 50V
2279	4822 126 14043	1µF +80-20% 16V
2280	4822 126 13849	220nF 10% 16V
2281	4822 126 13196	100nF 10% 0805 X7R 25V
2282	4822 126 13849	220nF 10% 16V
2283	4822 126 13694	68pF 1% NP0 63V
2284	4822 126 13196	100nF 10% 0805 X7R 25V
2285	4822 126 13694	68pF 1% NP0 63V
2286	4822 126 13196	100nF 10% 0805 X7R 25V
2287	5322 122 32654	22nF 10%X7R 63V
2288	4822 126 13849	220nF 10% 16V
2289	4822 124 23279	22µF 20% 16V
2290	4822 126 13849	220nF 10% 16V
2291	4822 126 13196	100nF 10% 0805 X7R 25V
2292	4822 124 22646	47µF 20% 16V
2293	4822 126 14043	1µF +80-20% 16V
2294	4822 126 14043	1µF +80-20% 16V
2295	4822 126 13196	100nF 10% 0805 X7R 25V
2296	4822 126 13849	220nF 10% 16V
2297	4822 126 13849	220nF 10% 16V
2298	4822 124 22646	47µF 20% 16V
2299	4822 124 23279	22µF 20% 16V
2300	4822 126 14043	1µF +80-20% 16V
2301	4822 126 14043	1µF +80-20% 16V
2302	4822 124 80061	1000µF 20% 25V
2303	4822 126 14043	1µF +80-20% 16V
2304	4822 126 14043	1µF +80-20% 16V
2305	4822 126 14043	1µF +80-20% 16V
2306	4822 126 14043	1µF +80-20% 16V
2307	4822 124 80061	1000µF 20% 25V
2308	5322 122 34098	10nF 10%X7R 63V
2309	5322 122 34098	10nF 10%X7R 63V
2311	5322 122 34098	10nF 10%X7R 63V
2312	5322 122 34098	10nF 10%X7R 63V
2316	4822 126 13196	100nF 10% 0805 X7R 25V
2317	4822 126 13196	100nF 10% 0805 X7R 25V
2318	4822 126 13196	100nF 10% 0805 X7R 25V
2320	4822 126 13196	100nF 10% 0805 X7R 25V
2321	4822 126 13196	100nF 10% 0805 X7R 25V
2322	4822 126 14043	1µF +80-20% 16V
2323	4822 126 14043	1µF +80-20% 16V
2324	4822 124 80453	100µF 20% 10V
2325	4822 126 13196	100nF 10% 0805 X7R 25V

⊣⊢		
2328	4822 126 13196	100nF 10% 0805 X7R 25V
2329	5322 122 34098	10nF 10%X7R 63V
2330	4822 126 13196	100nF 10% 0805 X7R 25V
2402	4822 126 12105	33nF 5%X7R 63V
2405	4822 124 80769	2200µF 20% 16V
2406	4822 124 23308	2200µF 20% 16V
2407	5322 122 32268	470pF 10% 50V
2409	4822 126 13849	220nF 10% 16V
2410	4822 124 80061	1000µF 20% 25V
2411	4822 124 11952	100µF 20% 16V
2412	4822 124 12085	100µF 20% SM 16V
2413	4822 126 14043	1µF +80-20% 16V
2414	4822 124 23282	1µF 20% 50V
2415	4822 122 33575	220pF 5%NPO 50V
2416	4822 124 22646	47µF 20% 16V
2418	4822 126 13849	220nF 10% 16V
2419	5322 126 10223	4,7nF 10%X7R 63V
2420	4822 126 13196	100nF 10% 0805 X7R 25V
2423	5322 122 33244	8,2pF 5%NPO 50V
2423	4822 126 13486	15pF 2% NP0 63V
2424	5322 122 33244	8,2pF 5%NPO 50V
2424	4822 126 13486	15pF 2% NP0 63V
2425	5322 122 32654	22nF 10%X7R 63V
2500	5322 122 34098	10nF 10%X7R 63V
2501	5322 122 34098	10nF 10%X7R 63V
2505	5322 122 34123	1nF 10%X7R 50V
2506	5322 122 34123	1nF 10%X7R 50V
2507	5322 122 34123	1nF 10%X7R 50V
2508	5322 122 34123	1nF 10%X7R 50V
2509	5322 122 34123	1nF 10%X7R 50V
2510	5322 122 34123	1nF 10%X7R 50V
2511	5322 122 34123	1nF 10%X7R 50V
2512	5322 122 34123	1nF 10%X7R 50V
2513	5322 122 34123	1nF 10%X7R 50V
2514	5322 122 34123	1nF 10%X7R 50V
2515	5322 122 34123	1nF 10%X7R 50V
2516	5322 122 34123	1nF 10%X7R 50V
2517	5322 122 34123	1nF 10%X7R 50V
2518	5322 122 34098	10nF 10%X7R 63V
2520	5322 122 34098	10nF 10%X7R 63V
2521	5322 122 34098	10nF 10%X7R 63V
2522	5322 122 34098	10nF 10%X7R 63V
2523	5322 122 34098	10nF 10%X7R 63V
2524	5322 122 34098	10nF 10%X7R 63V
2525	5322 122 34098	10nF 10%X7R 63V
2526	5322 122 34098	10nF 10%X7R 63V
2531	5322 122 34123	1nF 10%X7R 50V
2532	5322 122 34123	1nF 10%X7R 50V
2533	5322 122 34123	1nF 10%X7R 50V
2534	5322 122 34123	1nF 10%X7R 50V
2535	4822 126 13486	15pF 2% NP0 63V
2536	4822 126 13486	15pF 2% NP0 63V
2537	4822 126 13486	15pF 2% NP0 63V
2538	4822 126 13486	15pF 2% NP0 63V
2550	4822 126 13196	100nF 10% 0805 X7R 25V
2551	4822 126 13196	100nF 10% 0805 X7R 25V
2552	4822 126 13196	100nF 10% 0805 X7R 25V
2553	4822 126 13196	100nF 10% 0805 X7R 25V
2554	4822 126 12105	33nF 5%X7R 63V
2555	5322 122 34098	10nF 10%X7R 63V

⊣⊢		
2561	4822 126 13486	15pF 2% NP0 63V
2562	4822 126 13486	15pF 2% NP0 63V
2565	4822 126 13486	15pF 2% NP0 63V
2566	4822 126 13486	15pF 2% NP0 63V
2650	5322 122 34098	10nF 10%X7R 63V
2651	4822 126 13196	100nF 10% 0805 X7R 25V
2653	5322 122 34123	1nF 10%X7R 50V
2653	5322 122 32531	100pF 5%NP0 50V
2654	5322 122 34123	1nF 10%X7R 50V
2654	5322 122 32531	100pF 5%NP0 50V
2655	5322 122 34123	1nF 10%X7R 50V
2655	5322 122 32531	100pF 5%NP0 50V
2656	4822 126 13486	15pF 2% NP0 63V
2657	4822 126 13486	15pF 2% NP0 63V
2801	4822 124 23582	220µF 10V
2802	4822 124 23582	220µF 10V
2803	5322 122 32268	470pF 10% 50V
2805	5322 122 32531	100pF 5%NP0 50V
2806	5322 122 32531	100pF 5%NP0 50V
2807	5322 122 32268	470pF 10% 50V
2808	5322 122 32268	470pF 10% 50V
2809	5322 122 32268	470pF 10% 50V
2810	5322 122 32268	470pF 10% 50V
2811	5322 122 32268	470pF 10% 50V
2812	5322 122 32268	470pF 10% 50V
2814	5322 122 32268	470pF 10% 50V
2850	5322 122 34123	1nF 10%X7R 50V
2853	5322 122 34123	1nF 10%X7R 50V
2854	5322 122 34098	10nF nF 10%X7R 63V
2856	4822 122 33575	220pF 5%NPO 50V
2857	4822 122 33575	220pF 5%NPO 50V
2858	4822 122 33575	220pF 5%NPO 50V

─▭─		
3174	4822 051 20332	3K30 5% 0,1W
3175	4822 051 20102	1KΩ 5% 0,1W
3178	4822 051 20008	0Ω JUMP. (0805)
3179	4822 051 20008	0Ω JUMP. (0805)
3186	4822 117 11449	2K2 1% 0,1W
3206	4822 117 11503	220R 1% 0.1W
3207	4822 051 20101	100Ω 5% 0,1W
3208	4822 051 20101	100Ω 5% 0,1W
3209	4822 051 20104	100Ω 5% 0,1W
3210	4822 051 20332	3K30 5% 0,1W
3211	4822 051 20332	3K30 5% 0,1W
3213	4822 051 20562	5K6 5% 0,1W 0805
3214	4822 051 20101	100Ω 5% 0,1W
3216	4822 117 12955	2K7 1% 0,1W 0805
3217	4822 051 20101	100Ω 5% 0,1W
3218	4822 117 12955	2K7 1% 0,1W 0805
3219	4822 117 12955	2K7 1% 0,1W 0805
3220	4822 051 20101	100Ω 5% 0,1W
3221	4822 051 20101	100Ω 5% 0,1W
3222	4822 117 12955	2K7 1% 0,1W 0805
3223	4822 117 10965	18K 1% 0,1W
3224	4822 051 20102	1KΩ 5% 0,1W
3225	4822 117 10834	47K 1% 0,1W
3226	4822 117 11503	220R 1% 0.1W
3227	4822 117 11503	220R 1% 0.1W

3228	4822 051 20273	27KΩ 5% 0,1W	3319	4822 117 10833	10K 1% 0,1W
3229	4822 051 20472	4K70 5% 0,1W	3320	4822 051 20101	100Ω 5% 0,1W
3230	4822 051 20472	4K70 5% 0,1W	3321	4822 051 20478	4R70 5% 0,1W
3231	4822 051 20472	4K70 5% 0,1W	3324	4822 051 20478	4R70 5% 0,1W
3234	4822 117 11503	220R 1% 0.1W	3325	4822 117 10833	10K 1% 0,1W
3235	4822 117 11503	220R 1% 0.1W	3326	4822 117 10833	10K 1% 0,1W
3236	4822 051 20101	100Ω 5% 0,1W	3329	4822 116 10062	470R 50% 16V PTC 0805
3238	4822 117 12955	2K7 1% 0,1W 0805	3402	4822 117 10834	47K 1% 0,1W
3239	4822 117 12955	2K7 1% 0,1W 0805	3404	4822 051 20224	220KΩ 5% 0,1W
3241	4822 051 20105	1M00 5% 0,1W	3405	4822 051 20104	100KΩ 5% 0,1W
3247	4822 051 20105	1M00 5% 0,1W	3406	4822 051 20154	150KΩ 5% 0,1W
3249	4822 051 20008	0Ω JUMP. (0805)	3408	4822 051 20273	27KΩ 5% 0,1W
3260	4822 051 20223	22KΩ 5% 0,1W	3411	4822 117 10834	47K 1% 0,1W
3263	4822 051 20223	22KΩ 5% 0,1W	3412	4822 117 10834	47K 1% 0,1W
3266	4822 051 20223	22KΩ 5% 0,1W	3430	4822 051 20109	10Ω 5% 0,1W
3269	4822 051 20223	22KΩ 5% 0,1W	3431	4822 117 10834	47K 1% 0,1W
3270	4822 051 20122	1K20 5% 0,1W	3432	4822 117 10834	47K 1% 0,1W
3271	4822 117 11383	12K 1% 0,1W	3433	4822 117 10834	47K 1% 0,1W
3272	4822 117 11383	12K 1% 0,1W	3462	4822 051 20104	100KΩ 5% 0,1W
3275	4822 051 20472	4K70 5% 0,1W	3463	4822 051 20104	100KΩ 5% 0,1W
3276	4822 117 11139	1K5 1% 0,1W	3464	4822 051 20104	100KΩ 5% 0,1W
3277	4822 051 20122	1K20 5% 0,1W	3465	4822 117 10834	47K 1% 0,1W
3278	4822 117 11149	82K 1% 0,1W	3466	4822 117 10834	47K 1% 0,1W
3279	4822 117 10833	10K 1% 0,1W	3467	4822 051 20472	4K70 5% 0,1W
3280	4822 117 10834	47K 1% 0,1W	3470	4822 051 20104	100KΩ 5% 0,1W
3281	4822 051 20472	4K70 5% 0,1W	3471	4822 117 10833	10K 1% 0,1W
3282	4822 051 20331	330Ω 5% 0,1W	3472	4822 051 20102	1KΩ 5% 0,1W
3283	4822 051 20331	330Ω 5% 0,1W	3473	4822 117 10834	47K 1% 0,1W
3284	4822 051 20331	330Ω 5% 0,1W	3474	4822 051 20109	10Ω 5% 0,1W
3285	4822 051 20478	4R70 5% 0,1W	3475	4822 051 20109	10Ω 5% 0,1W
3286	4822 117 10833	10K 1% 0,1W	3476	4822 051 20008	0Ω JUMP. (0805)
3287	4822 117 10833	10K 1% 0,1W	3477	4822 051 20331	330Ω 5% 0,1W
3288	4822 051 20333	33KΩ 5% 0,1W	3477	4822 051 20008	0Ω JUMP. (0805)
3289	4822 051 20105	1M00 5% 0,1W	3478	4822 051 20109	10Ω 5% 0,1W
3291	4822 051 20105	1M00 5% 0,1W	3479	4822 051 20109	10Ω 5% 0,1W
3292	4822 051 20008	0Ω JUMP. (0805)	3480	4822 051 20331	330Ω 5% 0,1W
3293	4822 117 11139	1K5 1% 0,1W	3485	4822 051 20224	220KΩ 5% 0,1W
3294	4822 051 20224	220KΩ 5% 0,1W	3486	4822 051 20273	27KΩ 5% 0,1W
3295	4822 051 20104	100KΩ 5% 0,1W	3488	4822 117 10833	10K 1% 0,1W
3296	4822 051 20224	220KΩ 5% 0,1W	3489	4822 051 20334	330KΩ 5% 0,1W
3297	4822 051 20104	100KΩ 5% 0,1W	3501	4822 051 20101	100Ω 5% 0,1W
3299	4822 051 20109	10Ω 5% 0,1W	3502	4822 051 20008	0Ω JUMP. (0805)
3300	4822 117 10833	10K 1% 0,1W	3503	4822 051 20102	1KΩ 5% 0,1W
3301	4822 051 20223	22KΩ 5% 0,1W	3504	4822 051 20471	470Ω 5% 0,1W
3302	4822 051 20332	3K30 5% 0,1W	3505	4822 051 20101	100Ω 5% 0,1W
3303	4822 051 20478	4R70 5% 0,1W	3506	4822 051 20102	1KΩ 5% 0,1W
3304	4822 117 10833	10K 1% 0,1W	3507	4822 051 20102	1KΩ 5% 0,1W
3305	4822 117 10833	10K 1% 0,1W	3508	4822 051 20101	100Ω 5% 0,1W
3306	4822 117 10833	10K 1% 0,1W	3509	4822 051 20008	0Ω JUMP. (0805)
3307	4822 051 20478	4R70 5% 0,1W	3510	4822 117 11449	2K2 1% 0,1W
3308	4822 051 20478	4R70 5% 0,1W	3511	4822 051 20101	100Ω 5% 0,1W
3309	4822 051 20478	4R70 5% 0,1W	3512	4822 051 20101	100Ω 5% 0,1W
3310	4822 117 12955	2K7 1% 0,1W 0805	3513	4822 051 20472	4K70 5% 0,1W
3311	4822 051 20478	4R70 5% 0,1W	3514	4822 051 20101	100Ω 5% 0,1W
3312	4822 051 20478	4R70 5% 0,1W	3515	4822 051 20101	100Ω 5% 0,1W
3313	4822 117 12955	2K7 1% 0,1W 0805	3516	4822 051 20101	100Ω 5% 0,1W
3314	4822 117 10833	10K 1% 0,1W	3517	4822 051 20101	100Ω 5% 0,1W
3316	4822 117 10833	10K 1% 0,1W	3518	4822 117 10834	47K 1% 0,1W
3317	4822 117 10834	47K 1% 0,1W	3520	4822 117 10834	47K 1% 0,1W
3318	4822 117 10834	47K 1% 0,1W	3521	4822 117 10834	47K 1% 0,1W

3524	4822 117 10834	47K 1% 0,1W
3526	4822 051 20008	0Ω JUMP. (0805)
3527	4822 051 20008	0Ω JUMP. (0805)
3527	4822 051 20101	100Ω 5% 0,1W
3528	4822 051 20102	1KΩ 5% 0,1W
3529	4822 117 10834	47K 1% 0,1W
3530	4822 117 10834	47K 1% 0,1W
3531	4822 051 20472	4K70 5% 0,1W
3532	4822 051 20101	100Ω 5% 0,1W
3533	4822 051 20101	100Ω 5% 0,1W
3534	4822 051 20101	100Ω 5% 0,1W
3535	4822 051 20101	100Ω 5% 0,1W
3536	4822 051 20101	100Ω 5% 0,1W
3537	4822 051 20101	100Ω 5% 0,1W
3538	4822 051 20101	100Ω 5% 0,1W
3539	4822 051 20472	4K70 5% 0,1W
3540	4822 051 20472	4K70 5% 0,1W
3541	4822 051 20008	0Ω JUMP. (0805)
3550	4822 051 20471	470Ω 5% 0,1W
3552	4822 117 10834	47K 1% 0,1W
3553	4822 117 10834	47K 1% 0,1W
3554	4822 051 20224	220KΩ 5% 0,1W
3555	4822 051 20224	220KΩ 5% 0,1W
3556	4822 051 20101	100Ω 5% 0,1W
3557	4822 051 20273	27KΩ 5% 0,1W
3558	4822 117 10834	47K 1% 0,1W
3559	4822 051 20223	22KΩ 5% 0,1W
3560	4822 051 20008	0Ω JUMP. (0805)
3561	4822 051 20101	100Ω 5% 0,1W
3562	4822 051 20101	100Ω 5% 0,1W
3563	4822 051 20223	22KΩ 5% 0,1W
3564	4822 051 20223	22KΩ 5% 0,1W
3564	4822 051 20472	4K70 5% 0,1W
3565	4822 051 20223	22KΩ 5% 0,1W
3567	4822 051 20102	1KΩ 5% 0,1W
3568	4822 051 20472	4K70 5% 0,1W
3569	4822 051 20472	4K70 5% 0,1W
3572	4822 051 20101	100Ω 5% 0,1W
3573	4822 051 20101	100Ω 5% 0,1W
3574	4822 051 20223	22KΩ 5% 0,1W
3575	4822 051 20223	22KΩ 5% 0,1W
3576	4822 117 10834	47K 1% 0,1W
3577	4822 051 20101	100Ω 5% 0,1W
3578	4822 051 20472	4K70 5% 0,1W
3579	4822 051 20472	4K70 5% 0,1W
3580	4822 051 20008	0Ω JUMP. (0805)
3652	4822 051 20102	1KΩ 5% 0,1W
3653	4822 117 10834	47K 1% 0,1W
3654	4822 117 10834	47K 1% 0,1W
3658	4822 116 10063	8,2R 25% 30V PTC
3659	4822 117 10834	47K 1% 0,1W
3660	4822 116 10063	8,2R 25% 30V PTC
3665	4822 051 20008	0Ω JUMP. (0805)
3718	4822 051 20008	0Ω JUMP. (0805)
3812	4822 051 20104	100KΩ 5% 0,1W
3815	4822 117 10834	47K 1% 0,1W
3817	4822 051 20228	2R20 5% 0,1W^
3818	4822 117 10834	47K 1% 0,1W
3819	4822 051 20472	4K70 5% 0,1W
3820	4822 051 20331	330Ω 5% 0,1W

3821	4822 051 20101	100Ω 5% 0,1W
3822	4822 051 20331	330Ω 5% 0,1W
3823	4822 051 20331	330Ω 5% 0,1W
3824	4822 051 20472	4K70 5% 0,1W
3825	4822 051 20101	100Ω 5% 0,1W
3829	4822 051 20472	4K70 5% 0,1W
3830	4822 117 11503	220R 1% 0.1W
3831	4822 117 11503	220R 1% 0.1W
3832	4822 051 20331	330Ω 5% 0,1W
3833	4822 117 10834	47K 1% 0,1W
3834	4822 051 20102	1KΩ 5% 0,1W
3835	4822 117 10833	10K 1% 0,1W
3836	4822 117 10834	47K 1% 0,1W
3837	4822 051 20101	100Ω 5% 0,1W
3838	4822 051 20102	1KΩ 5% 0,1W
3840	4822 051 20102	1KΩ 5% 0,1W
3841	4822 051 20102	1KΩ 5% 0,1W
3842	4822 051 20105	1M00 5% 0,1W
3851	4822 051 20008	0Ω JUMP. (0805)
3852	4822 117 10833	10K 1% 0,1W
3855	4822 117 10833	10K 1% 0,1W
3858	4822 051 20008	0Ω JUMP. (0805)
3859	4822 051 20008	0Ω JUMP. (0805)
3862	4822 051 20471	470Ω 5% 0,1W
3863	4822 051 20101	100Ω 5% 0,1W
3864	4822 051 20104	100KΩ 5% 0,1W
3865	4822 051 20101	100Ω 5% 0,1W
3866	4822 051 20101	100Ω 5% 0,1W
3872	4822 051 20101	100Ω 5% 0,1W
3874	4822 051 20008	0Ω JUMP. (0805)

5172	4822 157 10975	120UH 10%
5173	4822 157 71184	10UH 10%
5174	4822 157 71206	BLM21A601SPT
5200	4822 157 71206	BLM21A601SPT
5201	4822 242 10565	95880-211 (36.860MHZ)
5202	4822 157 71184	10UH 10%
5203	4822 157 10976	68UH 10%
5204	4822 157 71206	BLM21A601SPT
5205	4822 157 10977	4,7UH 10%
5275	4822 242 81164	AT-51(11.2896MHZ)
5276	4822 157 71206	BLM21A601SPT
5277	4822 157 71206	BLM21A601SPT
5278	4822 157 71206	BLM21A601SPT
5400	4822 157 70935	COIL ASSY 97UH 10A
5402	4822 242 10398	TJ125DHB2 (32,768KHZ)
5500	4822 157 71206	BLM21A601SPT
5550	4822 157 10976	68UH 10%
5551	4822 157 71206	BLM21A601SPT
5650	4822 242 10709	CSTCS6.00MG-TC
5651	4822 157 71206	BLM21A601SPT
5700	4822 157 11679	7A06N-100K 10U
5800	4822 209 16297	LSYAA50

6200	4822 130 10654	BAT254
6300	4822 130 83757	BAS216
6301	4822 130 83757	BAS216
6401	4822 130 10488	S3G

6402	4822 130 10655	1SR154-400
6406	4822 130 10656	UDZ20B
6407	4822 130 10655	1SR154-400
6410	4822 130 83757	BAS216
6413	4822 130 11174	LSA670-JM
6551	4822 130 10654	BAT254
6552	4822 130 10654	BAT254
6653	4822 130 10657	PTZ5.6A
6654	4822 130 10657	PTZ5.6A
6803	4822 130 10185	UDZ5.6B
6804	4822 130 10185	UDZ5.6B
6805	4822 130 10185	UDZ5.6B
6806	4822 130 10185	UDZ5.6B
6807	4822 130 10185	UDZ5.6B
6809	4822 130 10185	UDZ5.6B
6810	4822 130 10185	UDZ5.6B
6812	4822 130 11175	LST670-JK
6813	4822 130 11175	LST670-JK
6814	4822 130 10185	UDZ5.6B
6815	4822 130 10185	UDZ5.6B
6850	4822 130 83757	BAS216
6852	4822 130 10185	UDZ5.6B

7172	4822 130 60511	BC847B
7200	4822 130 60511	BC847B
7201	4822 209 15479	SAA7701H/N212
7202	4822 209 33985	TDA8579T/N1
7204	5322 209 14481	HEF4053BT
7275	4822 130 60511	BC847B
7276	4822 130 60511	BC847B
7277	4822 209 16148	SAA7367T
7278	4822 209 33985	TDA8579T/N1
7279	4822 209 33985	TDA8579T/N1
7290	5322 130 60508	BC857B
7291	5322 130 60508	BC857B
7301	4822 130 60511	BC847B
7302	4822 209 16278	TDA1561Q/N2
7303	4822 209 16278	TDA1561Q/N2
7401	4822 209 14814	L4949NP
7402	4822 209 16279	SAA1305T
7404	4822 209 14815	VN06SP
7407	4822 209 15826	L9820D
7409	4822 130 60511	BC847B
7410	4822 130 60511	BC847B
7418	4822 209 33162	MC4558IDT
7430	4822 209 16281	LF85CDT
7500	4822 209 31553	FCB61C65LL-70T
7501	4822 209 16282	P51XAG30KFBD
7503	5322 209 11102	HEF4052BT
7504	5322 209 60424	74HC573D
7505	4822 209 30426	74HC00D
7506	4822 209 91136	PC74HC259T
7507	4822 209 14819	74HC251D
7508	4822 209 16733	M27C1001-PROG
7508	4822 209 16719	M27C2001-90C6
7550	4822 209 16283	P83CE569EFB/021
7550	4822 209 16721	560EFFB-RC959 PH2
7552	5322 130 60508	BC857B

7650	4822 209 32743	MSM6307GS
7801	4822 130 60511	BC847B
7802	5322 130 63033	BCP56
7803	4822 130 60511	BC847B
7804	4822 130 60511	BC847B
7805	4822 130 60511	BC847B
7820	4822 130 60511	BC847B

Philips Car Systems

ERSATZTEILE
für Philips Car Systems
erhalten Sie bei:
KiVi Service GmbH
Windmühlenstr. 41 · 31178 Giesen/Emmerke
Tel.: 0 51 21 / 6 00 20 · Fax 0 51 21 / 60 02 54

automotive
mannesmann
VDO

PHIL -05317

CD Module CDM-M2/1.1/1.1-1/1.1R/1.2/2.3

Service Manual

12 V ⊖

1. GENERAL

The CDM-M2 is a full-logic µP- and servo-controlled CD module. The module is controlled by the headset via the standardized I²C bus. The mechanical part is the same for all versions; the table gives an overview of the different connector types, supply voltages and applications.
The CDM-M2 has a so-called 'Pirouette' loading mechanism. This means that the CD is loaded and ejected with help of a roller which touches only the edge of the CD instead of the disc surface.
This guarantees an absolute scratch-free loading and ejecting of the CD.
Other built-in protections are against: 2nd disc insertion, 8cm disc insertion and mechanism damage when inserting a CD during power-off.

2. TECHNICAL DATA

Operating voltages	:	*Refer to table (section 3)*
Crosstalk suppression	:	≥ 75 dBA - A-weighted
THD	:	≥ 60 dBA - A-weighted
S/N ratio	:	≥ 85 dBA - A-weighted
Dynamic range	:	≥ 75 dBA - A-weighted
De-emphasis	:	≥ 8 dB
Bus interface	:	I²C
Weight	:	approx. 600 g

PCS 92 011

Published by VDO Car Communication   Printed in The Netherlands   ©Copyright reserved   Subject to modification   4822 725 25483

5317

OVERVIEW OF CDM-M2 VERSIONS

Version	Control Connector	Data Connector	Supply Voltage V1	Supply Voltage V2	Remarks
1.1	11-pole MOLEX SPOX	6-pole MOLEX PICOFLEX	4.75 - 5.25VDC 5.0VDC nom.	4.75 - 5.25VDC 5.0VDC nom.	Analogue audio output
1.1-1	10-pole MOLEX PICOFLEX	6-pole MOLEX PICOFLEX	4.75 - 5.25VDC 5.0VDC nom.	4.75 - 5.25VDC 5.0VDC nom.	Analogue audio output
1.1R	11-pole MOLEX SPOX	6-pole MOLEX PICOFLEX	4.75 - 5.25VDC 5.0VDC nom.	4.75 - 5.25VDC 5.0VDC nom.	As version 1.1 - but with new push-back
1.2	11-pole MOLEX SPOX	6-pole MOLEX PICOFLEX	4.75 - 5.25VDC 5.0VDC nom.	4.75 - 5.25VDC 5.0VDC nom.	Digital audio output
2.3	14-pole APM MICRO-MATCH	Combined with Control connector	10.0 - 16.0VDC 13.2VDC nom.	4.75 - 5.25VDC 5.0VDC nom.	Navigation system application / CD-ROM

For connector pin layouts, see further on in this manual.

4. MAINTENANCE

Remark: All position numbers of the main assy are given as normal fonts; position numbers of the pick-up assy are underlined.

4.1 Cleaning and lubrication

The CD module mechanism requires periodic cleaning and lubrication.

4.2 Cleaning with alcohol

- Turntable wheel pos. 14.
- Disc clamp assy pos. 2.
- Lens of pickup (laser) unit pos. 4.

4.3 Lubrication Overviews

See page 4.

5. CHECKS

5.1 Equipment Required

- Test CD's:

SBC442	4822 397 30155
SBC444/444A	4822 397 30245
Audio Signals disc1 SBC429	4822 397 30184
A-BEX TCD721 (white scratch)	
Philips 8A (double black dot)	
Max. thickness	4822 397 30275
Min. thickness	4822 397 30276
Skew disc	4822 397 30277
Eccentr. 200µm	4822 397 30278
Max. radius	4822 397 60141

The CD module should be tested while connected to a suitable radio set.

5.2 Access times

- Use the test CD SBC442.
- Maximum times should be:
  - 'Load to Play': 6 sec
  - Start up: 3 sec
  - Switch track1 → track 2: 2 sec
  - Switch track1 → track 20: 4 sec
  - Play → standby: 3 sec
  - Standby → eject: 3 sec
- If one or more times exceed the max. value, check (gear) wheels pos. 5-9 + 51, feed gear assy pos. 10/11 and drive gear pos. 13 and replace if necessary.
  Check also the servo- and sledge (feed) motors (resp. pos. 3 and 5).

5.3 Black dot

- Use test CD SBC444A with simulated black dot of typ. 1000µm.
- No 'hitching' may occur now during play.

5.4 Double black dot

- Use test CD Philips 8A with simulated black dots of 600+300µm.
- No 'hitching' may occur now during play.

5.5 Information layer interruption

- Use test CD SBC444A with simulated interruption of typ. 1000µm.
- No 'hitching' may occur now during play.

5.6 Simulated fingerprint

- Use test CD SBC444A with simulated fingerprint (tracks 18 and 19).
- No 'hitching' may occur now during play.

5.7 'White' scratch

- Use test CD A-BEX TCD721 with a white scratch of typ. 1000µm.
- No 'hitching' may occur now during play.

5.8 Eccentricity

- Use test CD with 200ìm eccentricity.
- No audible distortion, wow or flutter may be heard now.

5.9 Thickness

- Use the 'max.- and min. thickness' test CD's.
- The module should load these discs properly and no audible distortion, wow or flutter may be heard now.

5.10 Track attainability

- Use 'Audio signals' test CD.
- Track no.99 should be reached without problems.

When one or more specifications mentioned in '5.3' - '5.10' are not met, check the sledge (feed) assy pos. 5/6/10-13, spindle motor pos. 7 and pick-up unit pos. 4.
Replace if necessary.

For more information refer to the manual: 'General Check and Alignment Procedures' 4822 725 25456.

6. DISASSEMBLY PROCEDURE

Important: Before disassembling the CD module, lay the module with the pcb side up, unless otherwise noted.
Close the solder bridge on the flex foil of the pick-up (laser) unit assy pos. 4 of the drive assy pos. 43.
First the rear bracket pos. 11 should be removed!
For re-assembling, follow the procedures in reverse order. Take care that the wires, cams etc. are in the right position again after re-assembling.
For the exact position of the parts, refer to the exploded view.

6.1 CD pcb pos. 37

- Remove cable assy's pos. 59 and 60.
- Remove flexfoil of drive assy pos. 43 from the connector.
- Unplug the cables of the spindle- and sledge motor of pos. 43 and the servo motor pos. 3.
- Remove the two screws pos. 38.
- Pull the left part of the pcb slightly backward, lift it and take the pcb out.

6.2 Front bracket assy pos. 1

- First remove the CD pcb (see '**6.1**').
- Remove the two fixation screws pos. 23.
- Loosen the three springs pos. 17 and 48 from the pivots of the bracket.
- Pull off the damper from the pin of pos. 43.
- Take front bracket away.
- When re-assembling, put some spirit on the damper fixation pivots to make it easier to fix the damper.
- *Use new springs for pos. 17 and 48!*

6.3 Rear bracket pos. 11

- Remove the two fixation screws pos. 23.
- Loosen the two adhesive tapes and remove the servo motor cable wires.
- Pull off the two dampers from the pins of pos. 43.
- Take rear bracket away.
- When re-assembling, put some spirit on the damper fixation pivots to make it easier to fix the dampers.

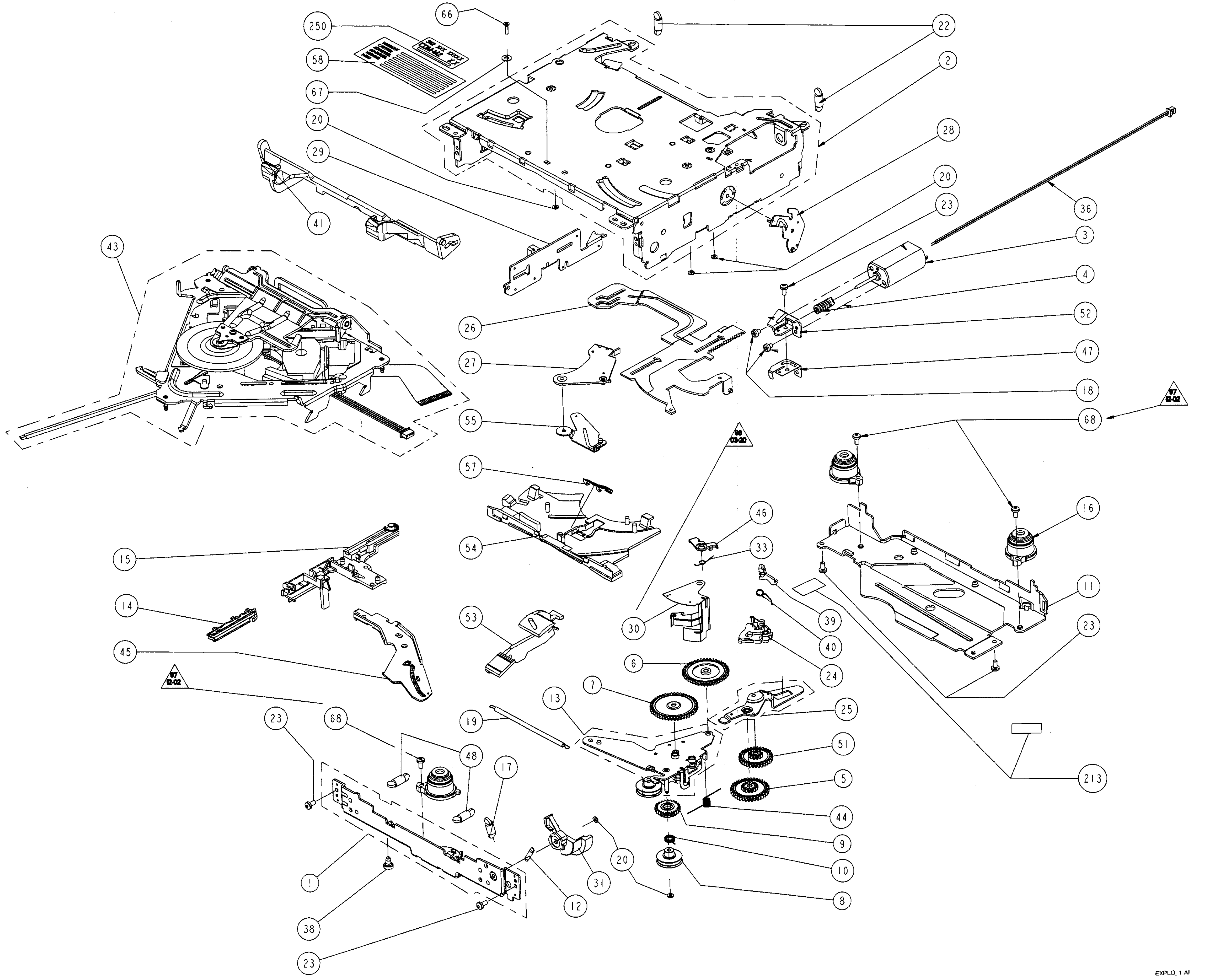
6.4 Drive assy pos.43

- First remove the pcb and brackets as described in '**6.1**', '**6.2**' and '**6.3**'.
- Remove the protection rod pos. 41.
- Unhook the two springs pos. 22.
- Supply the servo motor with a DC voltage of approx. 3...5V ('+' to motor terminal marked by red dot), to have the motor run so that command slider pos. 26 moves backward; *and* push roller pos. 8 to the left *and* push guiding/lever pos. 14/15 to the right *simultaneously*.
- Alternative method:
  Remove the servo motor by removing fixation screw pos. 23 and pulling the worm pulley side upwards; thereafter turn detection lever pos. 24 anti-clock-wise so that swing wheel pos. 51 graps in the cam of pos. 26; push and hold roller pos. 8 to the left *and* the guiding/lever pos. 14/15 to the right *simultaneously* and turn pos. 8 anti-clockwise until locking left pos. 27 moves to the right.
- As soon as pos. 27 moves to the right, the drive assy can be taken out.
- When re-assembling, *use new springs for pos. 17, 22 and 48!*

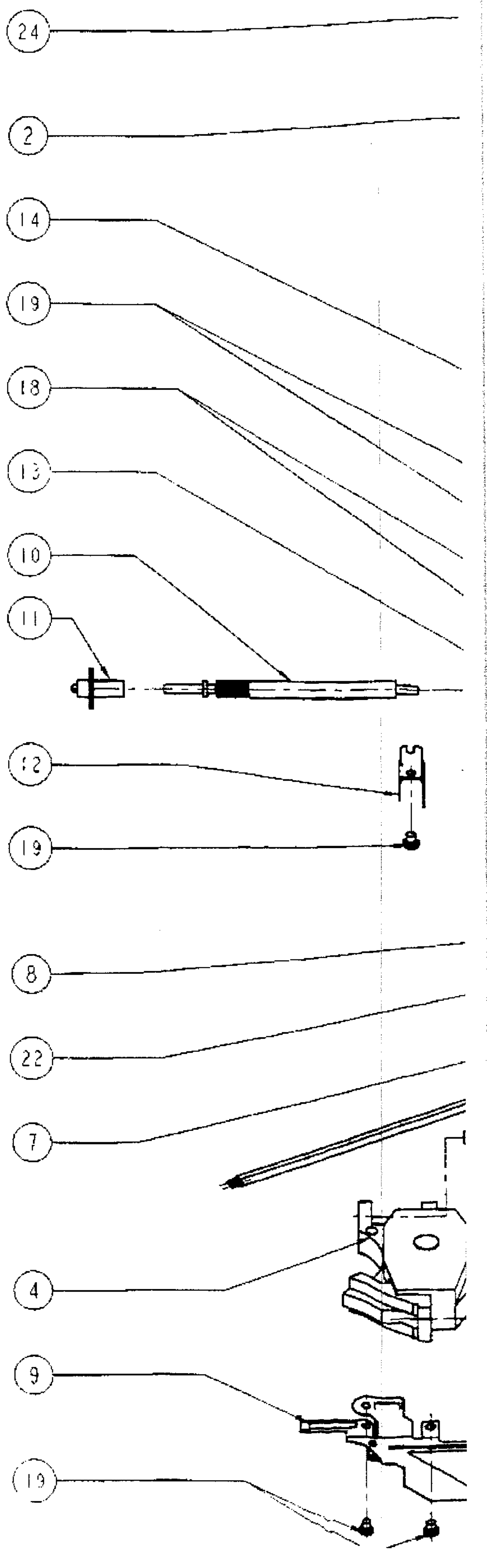
Important**: After re-assembling,* ***DON'T FORGET *to remove the solder bridge from the pick-up unit pos. 4!*

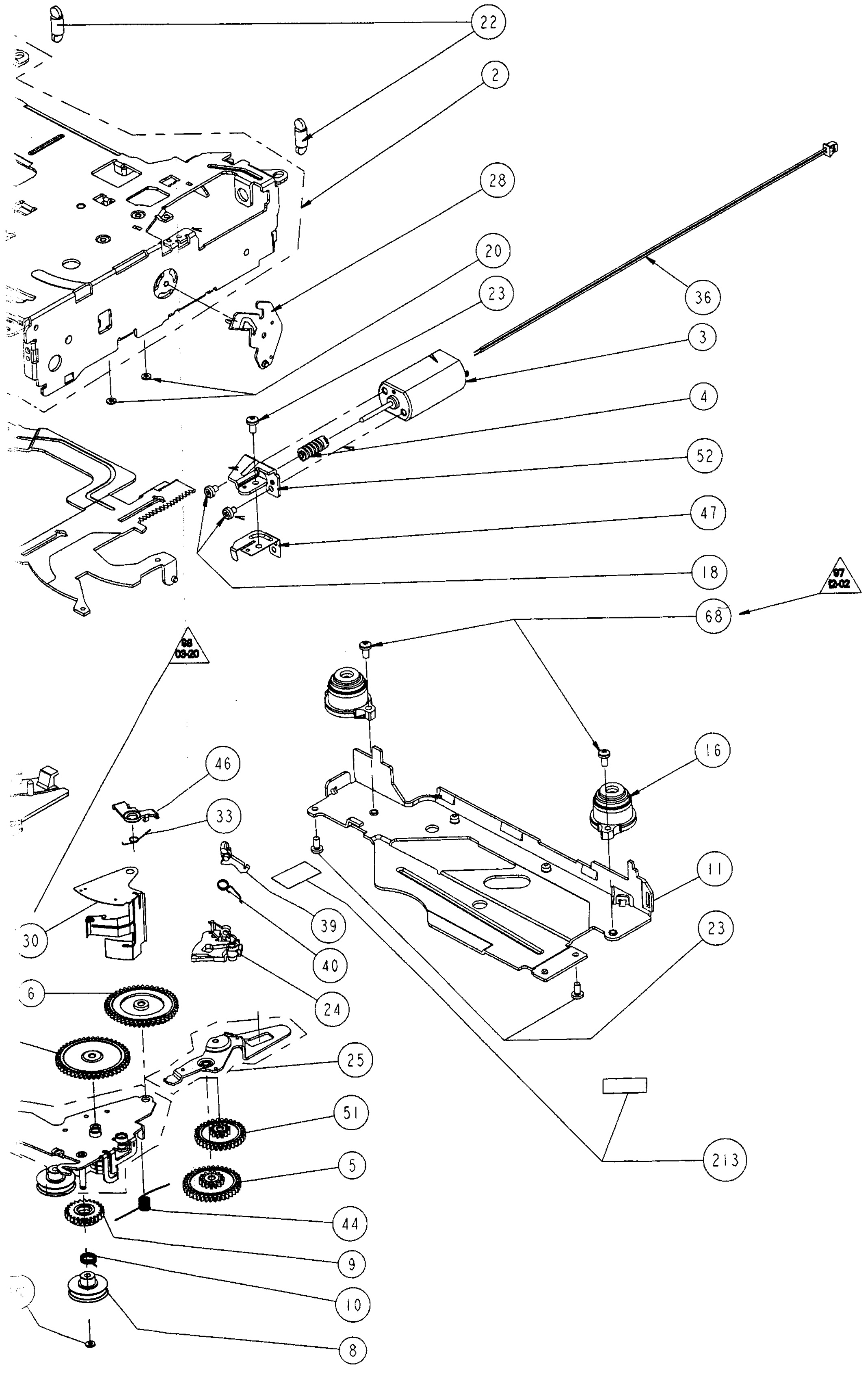
7. EXPLODED VIEWS

7.1 Exploded view changer mechanism

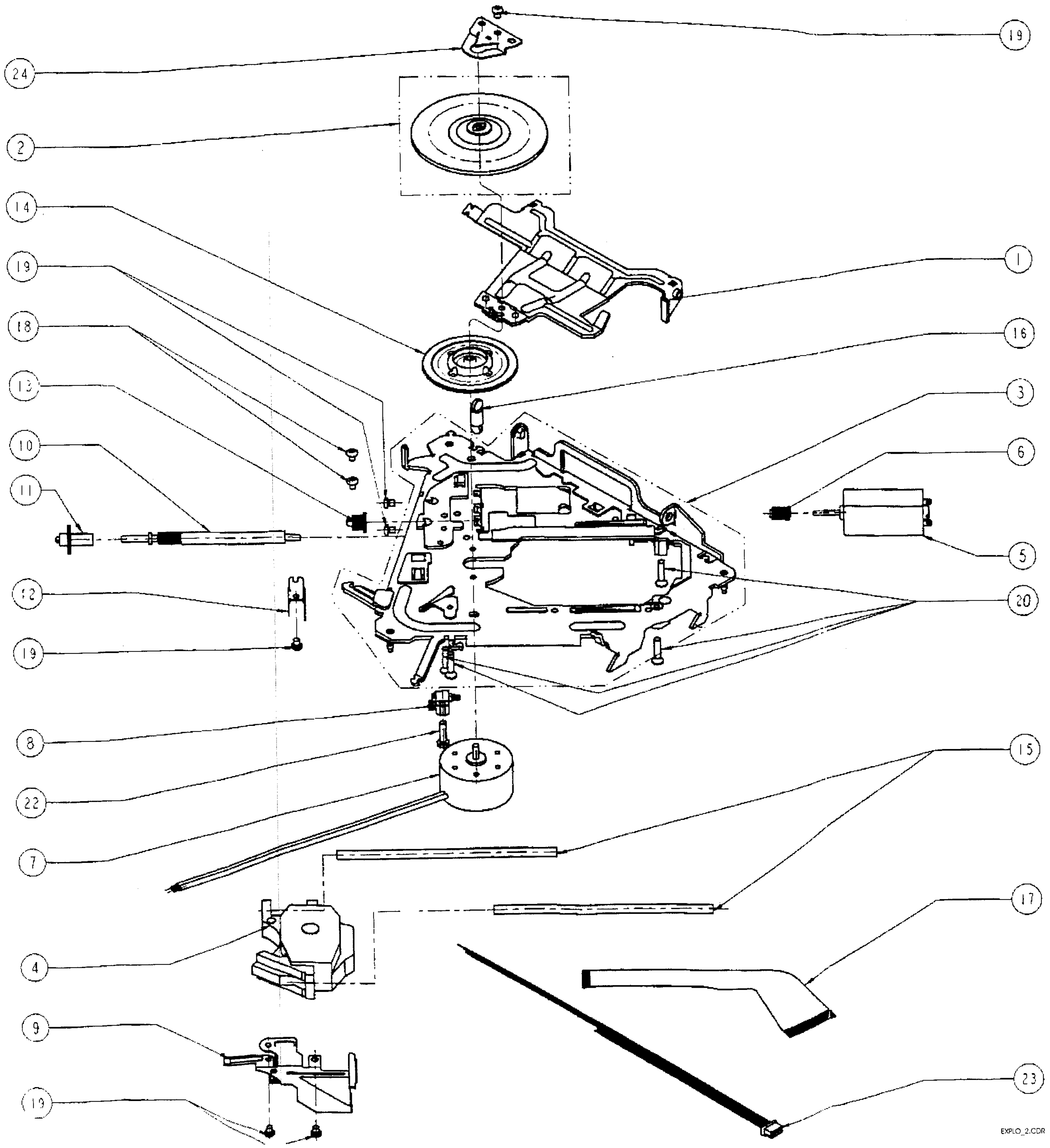

250
66
22
58
2
67
20
28
29
20
41
23
36
43
3
4
26
52
27
47
18
55
68
97 12-02
98 03-20
57
46
16
15
54
33
11
14
39
53
30
40
45
23
24
97 12-02
6
13
7
25
23
68
19
48
17
51
5
213
44
9
20
10
31
1
12
8
38
23
EXPLO_1.AI

7.2 Exploded view pick-up unit


24
2
14
19
18
13
10
11
12
19
8
22
7
4
9
19

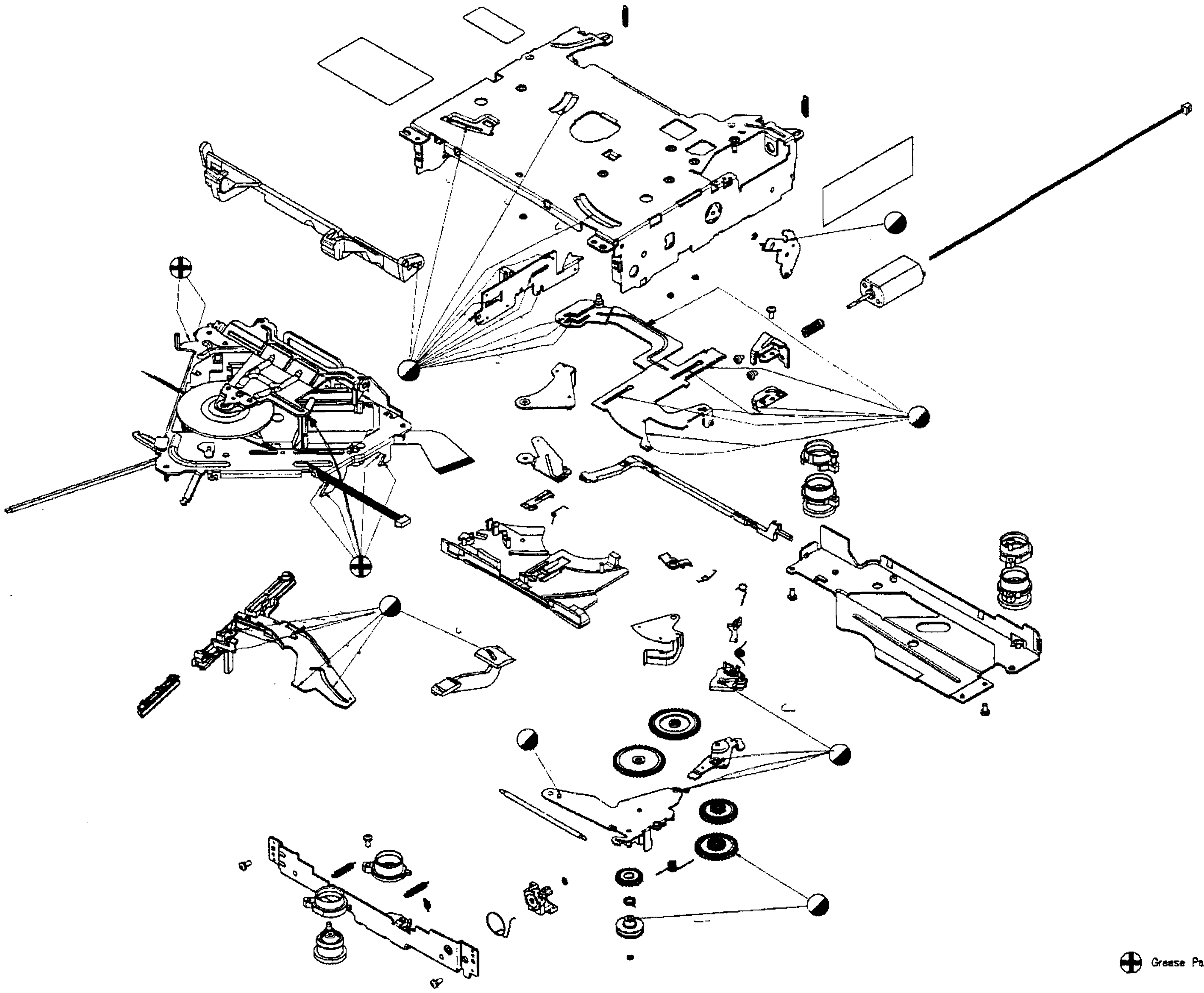

22
2
28
20
23
36
3
4
52
47
18
97 12-02
68
96 03-20
16
46
33
11
30
39
40
24
23
6
25
51
5
213
44
9
10
8
EXPLO_1.AI

7.2 Exploded view pick-up unit


19
24
2
14
1
19
16
18
3
13
6
10
11
5
12
20
19
8
15
22
7
17
4
9
23
19
EXPLO_2.CDR

8. LUBRICATION OVERVIEWS

8.1 Lubrication overview changer mechanism

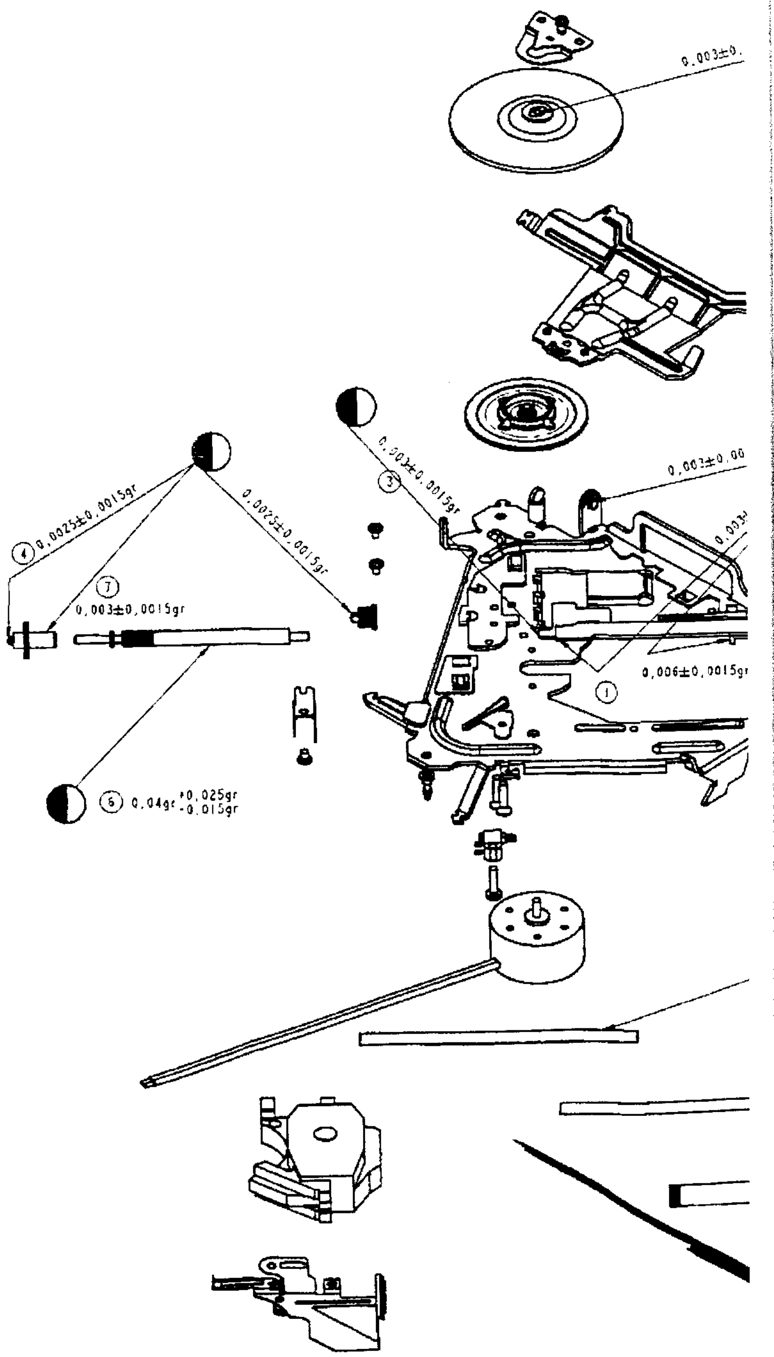


⊕ Grease Paste 805 K Gleitmo (1312 505 03101)

◐ Grease L 30 TF (1304 523 17601)

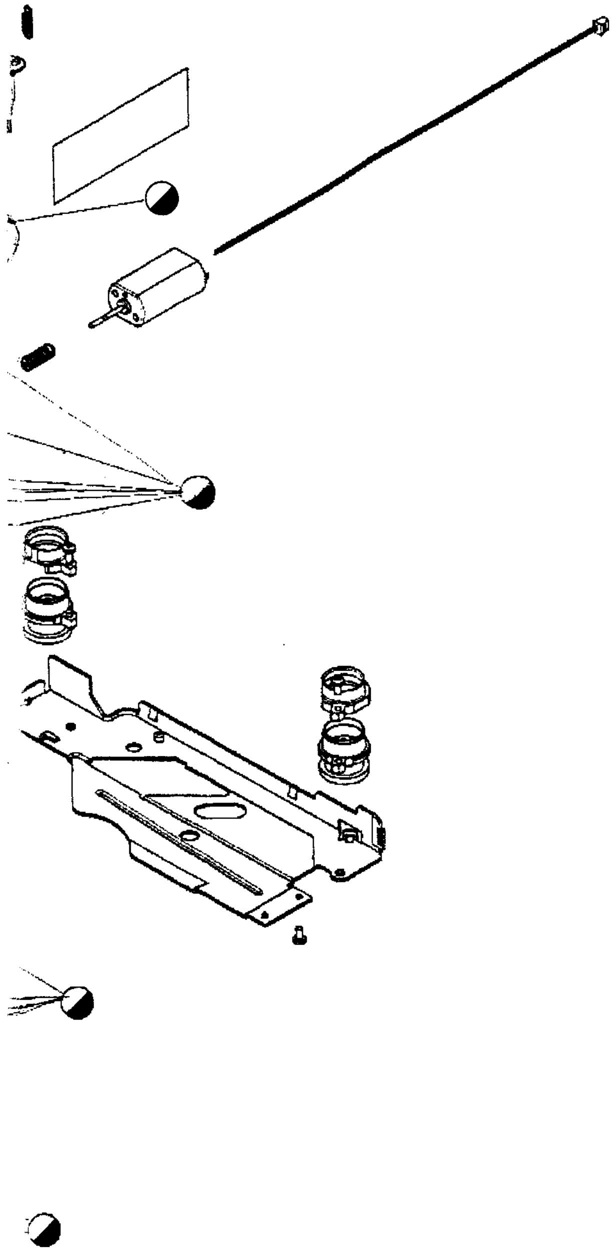
EXPLO_3.CDR

8.1 Lubrication overview pick-up unit



0,003±0,
④ 0,0025±0,0015gr
⑦ 0,003±0,0015gr
0,0025±0,0015gr
③ 0,003±0,0015gr
0,003±0,00
0,003
0,006±0,0015gr
①
⑥ 0,04gr +0,025gr -0,015gr

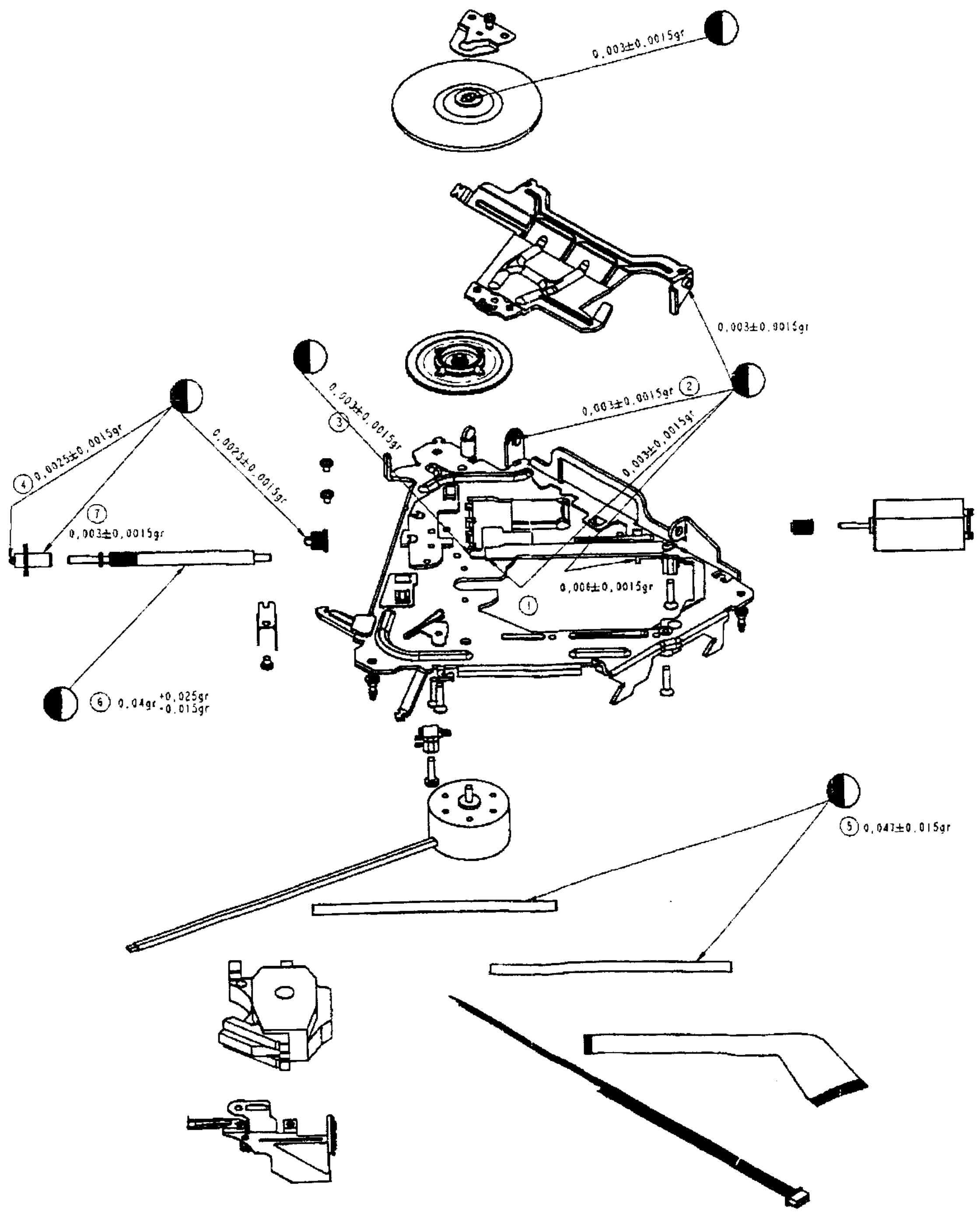
8.1 Lubrication overview pick-up unit



⊕ Grease Paste 805 K Glertmo (1312 505 03108)

◪ Grease L 30 TF (1304 523 17509)

EXPLO_3.CDR


0,003±0,0015gr
0,003±0,0015gr
0,003±0,0015gr ②
③ 0,003±0,0015gr
0,003±0,0015gr
④ 0,0025±0,0015gr
0,0025±0,0015gr
⑦ 0,003±0,0015gr
0,006±0,0015gr
①
⑥ 0,04gr +0,025gr -0,015gr
⑤ 0,047±0,015gr

① Bearing point of the feed gear assy
on the side of the sledge motor.
② The grease is put on the bearing point of the pressure plate.
③ The axle of the drive gear.
④ The grease is put on the bearing point of the feed gear assy.
on the side of the sledge motor (①)
⑤ Instead of the OPU we grease the surface of
the main pick shafts by using a special equipment.
⑥ We grease the surface of the feed gear. In this way
the grease disperses better on the length of the
feed gear.
⑦ After mounting

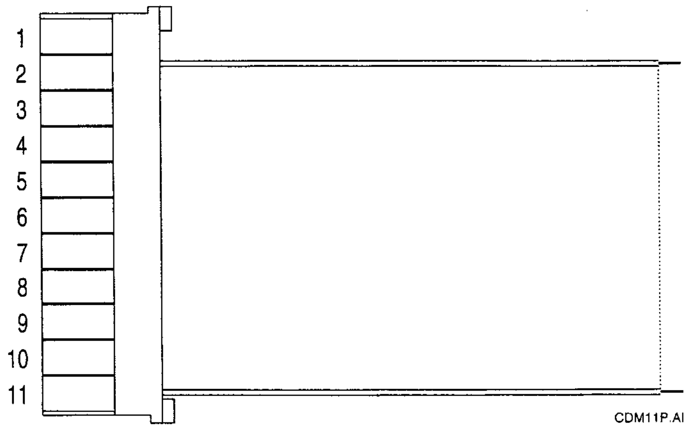
97
09-09
completely changed and
komplett geaendert und
3rd release
3. Feldfreigabe

◐ Molykote PG - 602 (1304 501 09801)

EXPLO_4.CDR

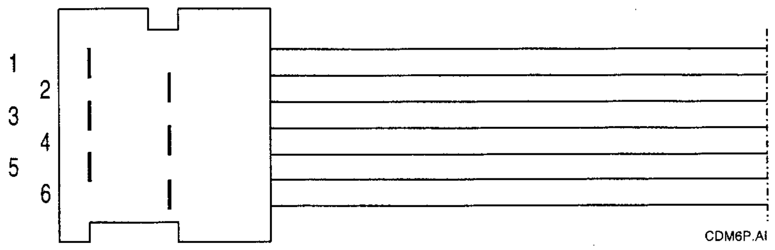
9. CONNECTIONS OVERVIEW

9.1 Connections CDM-M2/1.1/1.1R


1
2
3
4
5
6
7
8
9
10
11
CDM11P.AI

11 POLE CONNECTOR

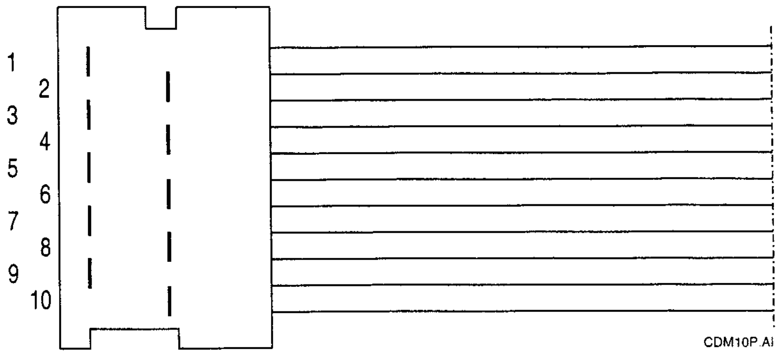
Pin	Signal
1	N.C.
2	INSERT SWITCH
3	GROUND
4	+ 5VDC (ANAL.)
5	SERIAL CLOCK - SCL
6	SERIAL DATA - SDA
7	BUS REQUEST - CRQ
8	+ 5VDC (DIG.)
9	µP RESET - CRST
10	GROUND
11	NOT USED


1
2
3
4
5
6
CDM6P.AI

6 POLE AUDIO CONNECTOR

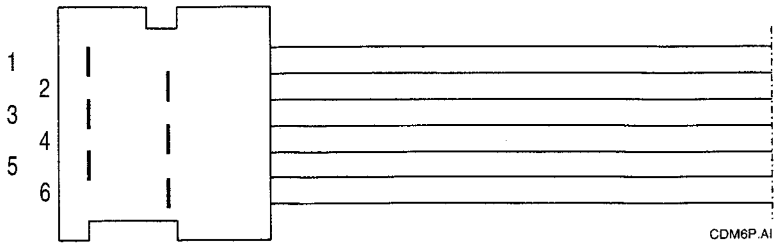
Pin	Signal
1	AUDIO GROUND
2	AUDIO RIGHT CHANNEL
3	AUDIO GROUND
4	AUDIO LEFT CHANNEL
5	AUDIO GROUND
6	NOT USED

9.2 Connections CDM-M2/1.1-1


1
2
3
4
5
6
7
8
9
10
CDM10P.AI

11 POLE CONNECTOR

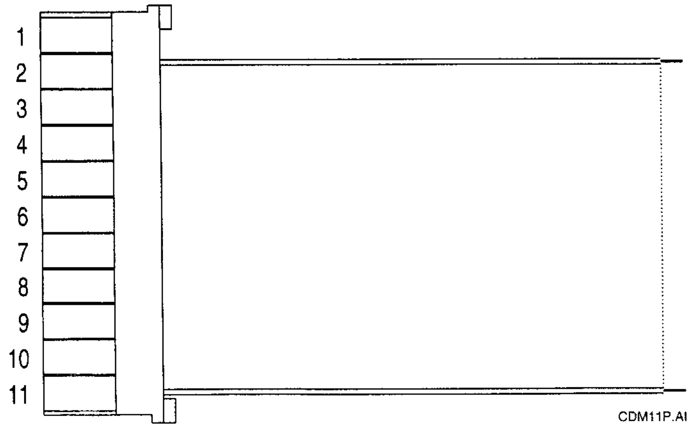
Pin	Signal
1	INSERT SWITCH
2	GROUND
3	+ 5VDC (ANAL.)
4	SERIAL CLOCK - SCL
5	SERIAL DATA - SDA
6	BUS REQUEST - CRQ
7	+ 5VDC (DIG.)
8	µP RESET - CRST
9	NOT USED
10	NOT USED


1
2
3
4
5
6
CDM6P.AI

6 POLE AUDIO CONNECTOR

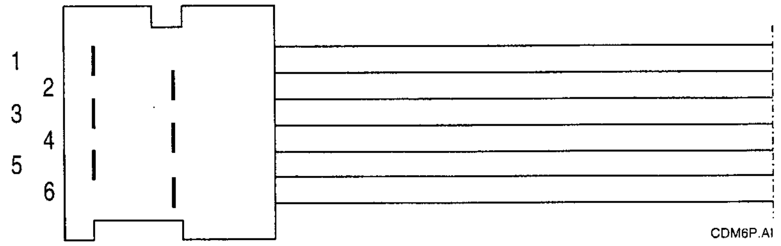
Pin	Signal
1	AUDIO GROUND
2	AUDIO RIGHT CHANNEL
3	AUDIO GROUND
4	AUDIO LEFT CHANNEL
5	AUDIO GROUND
6	NOT USED

9.3 Connections CDM-M2/1.2


1
2
3
4
5
6
7
8
9
10
11
CDM11P.AI

11 POLE CONNECTOR

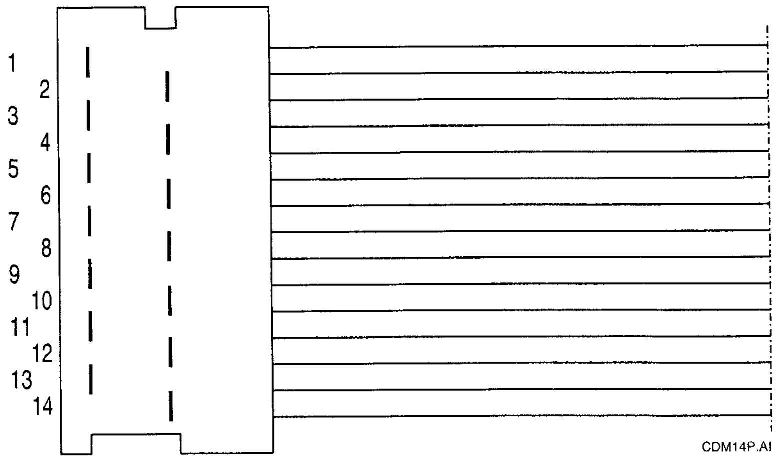
Pin	Signal
1	N.C.
2	INSERT SWITCH
3	GROUND
4	+ 5VDC (ANAL.)
5	SERIAL CLOCK - SCL
6	SERIAL DATA - SDA
7	BUS REQUEST - CRQ
8	+ 5VDC (DIG.)
9	µP RESET - CRST
10	GROUND
11	NOT USED


1
2
3
4
5
6
CDM6P.AI

6 POLE DATA CONNECTOR

Pin	Signal
1	DIGITAL GROUND
2	SERIAL BIT CLOCK - SCLK
3	DIGITAL GROUND
4	SERIAL DATA
5	WORD CLOCK - WCLK
6	NOT USED

9.4 Connections CDM-M2/2.3


1
2
3
4
5
6
7
8
9
10
11
12
13
14
CDM14P.AI

14 POLE CONNECTOR

Pin	Signal
1	INSERT SWITCH
2	GROUND
3	+ 14VDC (SWITCHED)
4	SERIAL CLOCK - SCL
5	SERIAL DATA - SDA
6	BUS REQUEST - CRQ
7	+ 5VDC (DIG.)
8	µP RESET - CRST
9	GROUND
10	SERIAL BIT CLOCK - SCLK
11	GROUND
12	SERIAL DATA
13	WORD CLOCK - WCLK
14	ERROR FLAG - EF

10. PARTS LIST

Notes: For the exploded views, refer to page 3.

The CDM-M2 is subdivided into the following main parts:
CD loader mechanism, drive (pick-up) unit, pcb and cable set.
However, the detailed exploded views both of the changer mechanism and the pick-up unit are inserted for completeness purposes and to clarify the maintenance – and disassembly procedures.

10.1 CDM-M2 mechanical parts

	4822 691 10712	Loader assy complete
23	4822 502 12001	Screw M2x4
	4822 310 11146	Spring kit for drive
38	4822 502 12795	Screw M2,5x6
43	4822 691 10715	Drive assy
	4822 691 10662	CDM-M2/1.1 complete (with pcb/packed)
	4822 691 10729	CDM-M2/1.1-1 complete (with pcb/packed)
	4822 691 10731	CDM-M2/1.1R complete (with pcb/packed)
	4822 691 10694	CDM-M2/1.2 complete (with pcb/packed)
	4822 691 10732	CDM-M2/2.3 complete (with pcb/packed)

10.2 CDM-M2 electrical parts

37	4822 214 12799	PWB assy CDM-M2/1.1/1.1
59	4822 320 12344	Cable assy CDM-M2/1.1/1.1R/1.2, 10-pole spox
60	4822 320 12345	Cable assy CDM-M2/1.1/1.1-1/1.1R/1.2, 6-pole picoflex
61	4822 214 12764	PWB assy digital CDM-M2/1.2
62	4822 214 12766	PWB assy CDM-M2/1.1R
63	4822 214 12801	PWB assy CDM-M2/2.1
65	4822 320 12347	Cable assy CDM-M2/1.1-1, 10-pole picoflex
69	4822 214 12763	PWB assy digital CDM-M2/2.3
70	4822 320 12346	Cable assy CDM-M2/2.3, 14-pole micromatch